

NEW
OBSERVATIONS
ON THE
Natural History
OF THIS
World of MATTER,
AND THE
World of LIFE:
In Two Parts.

Being a Philosophical Discourse, ground-
ed upon the Mosaick System of the
Creation, and the Flood.

To which are added

Some Thoughts concerning Paradise, the
Conflagration of the World, and a Treatise of
Meteorology: With occasional Remarks upon
some late Theories, Conferences, and Essays.

By THO. ROBINSON *Rector of*
Ousby in CUMBERLAND.

L O N D O N :

Printed, for John Newton at the Three Pigeons over
against the Inner-Temple-Gate in Fleet-Street, 1695.

To the Reverend

Mr. *William Nicholson*

Arch-Deacon of *CARLISLE*.

REVEREND SIR,

I Have read over the Books
you were pleased to lend me,
(*viz.*) Dr. *Burnet's* Theory
of the Earth, and Dr. *Wood-
ward's* Essay toward a Natural His-
tory of it; Both which entertain'd
me with a great many new and ve-
ry notable Hypotheses, managed
with a great deal of Art, Ingenui-
ty and Learning; but in my Opi-
nion very ill grounded; many of
their Notions being inconsistent
with common Sense and Experi-
ence, with Scripture and Reason;
A 2 especially

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especially the Mosaick Account of the Creation, Paradise, and the Universal Deluge ; and in some Particulars, Dr. Woodward seems inconsistent with himself.

These following Chapters, (which I make bold to present to your Hand , and to give you the Trouble of perusing) will shew you wherein I cannot concur with these great Virtuoso's, and why I endeavour to establish a quite different Notion of things ; and do ground it upon such Philosophical Theſes, as *Moses*, that great Philosopher, has laid down as so many *Postulata* in his short, but most comprehensive System of the Creation ; the whole being a short and compendious Description of this World of Matter, and this World of Life wherein we live.

SIR,

The Dedication.

SIR; I am so far from being big with a fond Conceit of any of these Notions, that I dare not trust them in any Hands but yours; for I am unwilling that these Papers (without your Approbation and Encouragement,) should go further abroad than your Study, lest some ill-natur'd and peevish Critick should take occasion to expose the Ignorance and Disingenuity of their Author.

I know (Sir) that the Experience you have lately gain'd by searching into those occult Regions of Matter, being now added to your former Speculations about it; has made you the most capable of determining all Differences, and solving the most difficult *Phænomena* of this Kind. If you will be pleas'd therefore to correct with your Pen the Mistakes you meet

A 3 with

The Dedication.

with in any of these Notions, and
let me have your honest and im-
partial Opinion of them, you will
further oblige,

Sir,

Your most affectionate

and humble Servant,

THO. ROBINSON.

To

~~Wisdom is better than Riches~~

~~and the things that may be desired~~

~~are to be compared to it~~

~~as to the things that may be desired~~

~~as to the things that may be desired~~

Gentlemen Miners.

GENTLEMEN,

IF *his Observation be true, That no Man can lose by the World; but what he loseth in Purse, he gains in Experience: You will have no Reason to complain, if sometimes your subterranean Projects miscarry upon your Head: Since that Loss may easily be Repaired by your experimental Knowledge, of those occult Regions of Matter: concerning which, the most profound Philosopher can give no Account, but by way of Hypothesis and Conjecture.*

Solomon, that great Master of experimental Knowledge, tells us that

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Wisdom is better than Rubies; and all the things that may be desired are not to be compared to it. And tho' that by Wisdom be may mean that Divine Philosophy which the New Testament calls Religion; yet certainly there is nothing contributes more towards making one morally or physically wise, than Experience, as he intimates in the following Verse, where he brings in Wisdom thus speaking: Prov. 8. 11. I Wisdom dwell with Prudence, and find out the Knowledge of witty Inventions. I confess that the Theorick Part of Philosophy (being the first-born,) is more noble; and therefore deservedly sits Regent in the superior Faculties of the Soul: Attended with sublime Notions and Speculations; and sometimes Figments and Chimæras are also her Maids of Honour.

And altho' the practick or experimental Knowledge, is that Instrumental

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mental Part, sits below in humble Girth,
attended only with mechanick Arti-
ficers, and manual Operators: Yet
she oftentimes Entertains the World
with more of Certainty, and Demonstra-
tion than the former.

Gentlemen, I shall not complement
you into a good Opinion of those Noti-
ons which I am willing should abide
the Test of an impartial Judgment;
only I think it may be convenient to
let you know that they are the product of
20 Years Experience and Observation;
for so long I have been concerned in
the Inspection of under-ground Works
of several Kinds.

Besides the Place of my Habitation
being under Crosfell, (one of the
highest Mountains in England) whose
lofty Top gives a large Prospect both of
the East and West Seas; I have from
thence observed, not only the different
Stalles of Matter, the Eruption of
Rapid

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Rapid Springs; but also the Rising and Falling as well as the Rarefaction and Condensation of Vapours.

Gentlemen, If the Publication of this short Treatise (which I presume to present to your Hand, as the most proper Patrons of subterranean Philosophy) put you to the Charge of an easie purchase, you will certainly have it much cheaper than the Author, who shall always remain,

GENTLEMEN,

Dublin, April the 16.
(1696.)

Your most humble Servant

and Well-Wisher,

THO. ROBINSON.

The

Rapid

THE PREFACE.

IF the learned Authors of the new Theories and Essays had but taken the Pains to have consider'd better of those great Advantages of Learning and Education which *Moses* (the greatest Philosopher that ever was in the World, and the first Describer of its Creation) had beyond any of those learned Philosophers of later date, who have writ upon the same Subject; they would have entertain'd a greater Veneration and Esteem for his short, but most comprehensive System; than for the larger Volumes of those common Philosophers and Historians.

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ans, whose Writings are only the Product of their own natural Reason; though set off with the greatest Artifice of Words, and Advantages of human Learning.

The first Progress which this great Philosopher made in human Learning and Wisdom was in *Pharaoh's* Court, where he had his Education, under the Tuition of his own Daughter, who having no Child of her own, design'd to adopt him her Son, and make him Heir apparent to that Crown: To which End he was by her Care instructed in all the Learnings, Wisdom, and Philosophy of the *Egyptians*: And no doubt but some of the most learned amongst the Hierophanthæ, who were the most skilled in the Knowledge of mystical as well as natural Philosophy, were his Tutors.

He

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He being thus qualified with the best Learning *Egypt* could then afford, the second Improvement he made was in the Family of his Kinsman *Jethro*, who being as well a Priest as Prince of *Midian*, did not only discipline him in all the Rules of Policy, Conduct, and Government, by which he was fitted and prepar'd for being Captain General of that mighty Host of the *Hebrews*, which God design'd to deliver from the *Egyptian* Yoke, and under his Conduct to settle in *Canaan*; but also he was instructed by him in the Religion of his Ancestors, the Patriarchal Traditions concerning the Creation of the World, the Beginnings of things, and the Genealogies of Men; which being best known to *Adam*, who coming immediately out of God's

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God's Hand, did undoubtedly deliver it to his Son *Seth*, *Seth* to *Enos*, and so from Father to Son, to *Abraham*, from whom *Josheph* descended by a second Marriage.

During his Time of Residence in *Midian*, which was forty Years, and most of that Time being spent in Contemplation: Its generally believed he wrote this System of the Creation, with the rest of his Book called *Genesis*, by the Assistance and Direction of his Father-in-Law, who could not be ignorant of the Patriarchal Traditions; himself being descended from a Patriarch of special Note.

After these Gradations and Improvements in all Kinds of humane Learning, Wisdom and Philosophy, God took him into his own Service, and was pleased by

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a sort of Personal Communication
to impart to him as well the
manner how all things began to
exist, as how the Manners
of Mankind were to be exer-
cised; so that he may be reason-
ably supposed to found the Authori-
ty of his Writings, as well as of
his Government over God's People,
upon Divine Revelation.

In this most excellent System,
Philosophy, Divinity and Mystery
seem to be so closely interwoven
that it would be a Matter of great
Difficulty (if not Impossibility)
for any, unless such as are well
skill'd in the Cabalistical Traditi-
on and Mythology, to unravel the
Contexture and distinguish its parts.
And some of the most learned
Rabbies are of opinion that God
directed Moses, and the rest of the
holy Men, frequently to make
use

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use of Metaphors, Allegories, and other Schematical Forms, which must needs be attended with some Darknes and Obscurity (these being as it were a Veil drawn over the Face of Divine Truth) and this might occasion Solomon to join the *Words of the Wise*, and their *dark Sayings* together.

And this was not only the Practice of the sacred Writers; but of the learned Heathens, especially their Priests and Philosophers; who undoubtedly did imitate *Moses* herein: but for different Ends and Purposes; for it did highly concern the Pagan Priests to hide and conceal their Mysteries from the Light; which like bastard Eagles would not endure the Tryal of it.

But the holy Spirit might direct the holy Pen-men to observe their

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their Style for Reasons of greater and more weighty Moment.

For the Divine Wisdom might see it fit in the Infancy of the World, to discover his Will and Mind in some things very suitable to the Capacities of the Men of that Age : And to reserve other things of great moment veil'd under Allegories, and mystical Expressions until the Minds of Men were more opened and enlarged ; for discovering of those brighter Beams of Divine Truth.

Yet that the Glories that were after to appear might not be wholly clouded ; he order'd it so, that such a thin Veil shou'd be drawn over the Matter, as shou'd not more set off the Beauty, than stir Men up to a diligent Search after those Divine Truths.

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If then a modest Attempt be made to ground a Philosophical Discourse upon some of these veiled Mysteries, with Submission to Men of greater Learning, and better skill'd in mystical Philosophy: I presume that it will not be judg'd an Effect either of Pride or Vain-glory.

Preliminary

Preliminary Postulata.

I Know that it's much out of Fashion to beg Principles in this Philosophizing Age; yet considering that this Schematical Account which Moses has given of the Creation is as well Philosophical and Mystical, as Historical and ad hominem, I presume that these following Postulata, being grounded upon such reason, as cannot be denied, will easily be granted me; as first--

That this Natural World was created in a Natural Way, by the Agency of second Causes; God Almighty concurring with them by his Direction and Approbation in these Words (He saw that it was good.)

1.

Preliminary Postulata.

2. ~~That the work of the Creation cou'd~~
not, in a natural way, be compleated in
so short a time as six days; for as it can-
not be easily imagined that all the Solid
Strata and Beds of Iron cou'd be digest-
ed into such good order, as we find them
in; and receive their several Degrees
of Consolidation in that time: Neither
can it be Suppos'd that all these differ-
ent natures in the Vegetative and Ani-
mal Sphere of life shou'd grow up to such
a degree of Perfection, that Adam cou'd
eat Ripe fruit in Paradise of six days
Production: And that all the Beasts of
later birth cou'd in that time get Strength
to appear before him.

3. It may then be taken for a granted
Principle, that by the six days work is
meant the six distinct Productions; and
by the Evening, and the Morning, is
meant the Principles of Activity and
Passivity, which were the Instrumental
Causes of these Productions.

ind

2 2

That

Preliminary Postulata.

That Paradise in a literal sense may signify a local place or Garden of Pleasure, in a Philosophical sense all those Rational and Sensual Pleasures our Natures are capable of in this Material World: In a Mystical sense it signifies Heaven, or those Intellectual Pleasures our Natures shall be capable of when they are Spiritualized and Exalted. 4.

That Adam and Eve in a literal sense signify the first Individual Persons that were of that Species: In a Philosophical Sense, they signify a Generation of Men, and Women; in a Mystical sense, they signify Reason and Sense, or the Superior, and Inferior Faculties of the Soul. 5.

That by the Serpent in a literal Sense is signified a subtle insinuating Brute, whose Speckled Skin (being beautified with all the Variety of Natural Paint) made it a fit Object to work upon the visive Faculty; in a 6.

Preliminary Postulata.

Philosophical Sense, it may signifie natural Concupiscence: And, in a mystical Sense, it may signifie the Devil.

7. By the Tree of Life, in a literal Sense, may be signified an individual Tree producing Fruit, and preserving Life. By the Tree of Knowledge in a literal Sense, may be understood a Tree bearing Fruit of a poisonous Quality, and destructive of Life; in a Philosophical Sense they may signifie the whole Species of Vegetables, both of a wholesome and poisonous Nature; in a mystical Sense they may denote eternal Life and eternal Death.

8. Adam's giving of Names to the Beasts signifies the Exercise of his natural Reason, by distinguishing of their Natures.

9. Lastly, by Eve's eating of the forbidden Fruit, may be understood the Desire of natural Concupiscence: to gratifie her Senses with their beloved Objects.

ADVERTISEMENT

WITH

Additional Remarks.

Since the writing of the following Discourse, a new *Theory of the Earth* hath been publish'd by a thoughtful young Divine, who agrees in some Notions with me; this therefore is to assure the Reader, that my Manuscript laid all the last Winter in *London*, and was printed off before I had a Sight of the aforesaid Book, which several of my Friends can testify (if there should be occasion) thro' whose Hands these Papers have passed.

Another thing ought to be taken notice of, and that is my referring several Hypotheses and Observations to a late *Writer* (a Fault which Mr. *Whiston* hath committed up and down his Book) who it seems hath taken them from others; which I accidentally discover'd by falling upon the *Monthly Miscellany Letters*, Vol. 1. Numb. 22. Pag. 361, 366. Vol. 2. Numb. 2. Pag. 49. to 37. As also the *Philosophical Transactions of the Royal Society*. Numb.

Additional Remarks.

219. from p. 181. to 201. of which 'tis but just to give some Instances; for a tender regard ought to be had for the Original Inventors of things, who ought not to be robb'd of the Fruits of their Labours and Studies by Pyrratical Rovers, who set up for stupendous and miraculous Discoverers. Turn to this *Essay*, Pag. 33. The Origine of Mountains from the Disruptions and Changes of the Strata of the Earth was Steno's Opinion. See his *Prodrom to a Dissertation concerning the Changes of the Earth*.

Pag. 40. 75, 76, 77. The same Steno, in his *Prod.* places about the central Fire of the Earth, a huge Sphere or Abyſs of Waters; which, according to him, supplies the Earth with Springs, the Air with Vapours, and was sufficient for the general Deluge, when by the Force of the subterraneous Fires, it was thrust and forced up, whereby the Globe was broken to pieces, and dissolv'd in the vast Fluid.

Pag. 61. 62. The perpendicular and horizontal Fissures of the Earth, dividing the Strata or Beds of Sediments, are with great Care and Accuracy delineated and described by Dr. Steno in his *Prodrom*,

Additional Remarks.

Prodrom, and many other Phenomena relating to the History of the Earth, are explain'd at the End of his *Anatomie du corps de l'homme* in his *specimen anatomicum*.

Pag. 76, 86, 88. The reflecting on subsiding of Bodies, as well terrestrial as marine (dissolv'd or mix'd with the Waters of the Deluge,) according to the Laws of Specific Gravity in these several Strata or Beds of Stone, Sand, Clay, Marle, Slate, Lime, Chalk, &c. was publish'd above 26 Years ago, by Nicholas Steno, and Agostino Scilla; if the aforementioned Accounts in the *Monthly Miscellan. Letters*, and the *Philosophical Transactions* are to be rely'd upon: the Books themselves being not to be come at in a remote Province. This *Seminant Hypothesis* of the Formation of the pre-

* Note, that Steno proves the Earth to have been twice fluid, twice plain and dry, twice scabrous and craggy; the first was at the original Chaos, the second at the Flood; This (Lava) is manifest from some beds of the higher Hills, containing no Heterogeneous Bodies, because form'd before there were any Animals or Plants, or other mix'd Solids; and so preserv'd in their simple unadulterated State by the stability of their Situation, which might secure them against the kind of many adventures or fortuitous Beds, falling for the most part on the Valleys and low Places, where they make up all the compound Strata, which incrust the present Earth, and separate it from the primitive one, whose Beds are more simple, not stuff'd up with such different Bodies as make up the postdiluvian Strata, or Sediments. This agrees with what Mr. Whiston delivers in many Places of his *New Theory*. To which we may add that the simple unadulterated Beds on the high Mountains, destitute of Heterogeneous Solids, may be laid open by the washings away of the incumbent Diluvian Sediments or compound Beds, by the Torrents of Rains, which carry down those Crusts and Bodies along with them.

Additional Remarks.

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Pag. 61. 62. The perpendicular and horizontal Fissures of the Earth, dividing the *Strata* or Beds of Sediments, are with great Care and Accuracy delineated and described by Dr. *Steno* in his *Prodrom*,

Additional Remarks.

Prodrom, and many other Phenomena relating to the History of the Earth, are explain'd at the End of his *Anatomie de la carriere*. in his *specimen anatomicum*. 1781. 1st Pag. 76, 86, 88. The settling or subsiding of Bodies, as well terrestrial as marine (dissolv'd or mix'd with the Waters of the Deluge,) according to the Laws of specifick Gravity in their several Strata or Beds of Stone, Sand, Clay, Marle, Slate, Lime, Chalk, &c. was publish'd above 26 Years ago, by Nicholas Steno, and Agostino Scilla; if the aforementioned Accounts in the *Philosophical Miscellan. Letters*, and the *Philosophical Transactions* are to be rely'd upon; the Books themselves being not to be come at in a remote Province. This *Sentiment Hypothesis* of the Formation of the pre-

Earth to have been twice fluid, twice plain and dry, twice scabrous and craggy: the first was at the original Chaos, the second at the Flood; This (says he) is manifest from some beds of the higher Hills, containing no Heterogeneous Bodies; because form'd before there were any Animals or Plants, or other mix'd Solids; and so preserv'd in their simple undiluvian State by the height of their Situation, which might secure them against the violence of many adventitious or fassitious Beds, falling for the most part on the Valleys and low Places, where they make up all the compound Strata, which inconstitute the present Earth, and separate it from the primitive one, whose Beds are more simple, not stuff'd up with such different Bodies as make up the postdiluvian Strata, or Sediments. This agrees with what Mr. Whiston delivers in many Places of his *New Theory*. To which we may add that the simple undiluvian Beds on the high Mountains, destitute of Heterogeneous Solids, may be laid open by the washings away of the incumbent Diluvian Sediments or compound Beds, by the Torrents of Rains, which carry down those Crusts and Bodies along with them.

* Note,

that Steno proves the

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sent Earth out of the several Beds or Sediments of Matter mix'd with, and sinking down from the Waters of the general Flood according to the Affinity and Weight of Parts is much oppos'd by a late Author of two Essays from Oxford, who cannot believe the Deluge to have been universal, nor the whole Earth planted with Animals from *Noah's Ark*, whose Arguments I do not approve of, being inconsistent with true Philosophy, and Divinity: Neither is Dr. *Nicol's* second Creation of Animals after the Flood to be allow'd of, being contrary to the Design of *Noah's Ark*, and to the whole Mosaic Narration.

As to my Opinion concerning the Origin of fossil Shells, of form'd Stones, and subterraneous Plants; *Scilla* himself, tho he with *Steno* has taken great Pains to prove them to be the Exuviae or Spoils of Animals and Vegetables (from the Similitudes of their Parts in every particular) and to be the Remains of the Deluge subsided and lodg'd in several Beds, Layers, or Sediments; yet I find by Dr. *Liber*, that *Scilla* own'd some sorts of them to be of another Original, and the learned Dr. himself

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himself proves beyond all contradiction, that real perfect Shells are frequently found in the Bladder, Kidneys, Imposthumes, and other Cells of Animal Bodies; and if so, why need we force them into the midst of Quarries and Rocks by dissolving the whole Frame of Nature for their Sakes?

If true Shells can be form'd within Stones of the Bladder, and in many other Parts of the Bodies of Creatures; then by the same Argument a Million may be form'd in the Bowels of the greater World, every way resembling those of the Sea, in *Sirius*, *Lamella*, *Fascia*, *Tendons*, *Threads*, &c. so that they might persuade *Steno*, *Dr. Hook*, *Beccone*, *Scilla*, *Columna*, and *Mr. Ray*, that they were really the very same, owing their Original to the Flood, or Chaos, or Earthquakes.

My Hypothesis concerning the Generations of several Animals is much confirm'd by the learned and experienced *Father Buoneni* in his late *Observations circa ventis in non viventibus rebus*; who maintains equivocal Generation from many clear and undoubted Proofs.

For,

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For, Pag. 151. to Pag. 166. compare
Huetius and Bochart de Paradiso.

Pag. 189, 191. Some great Natural
Philosophers will have the *Igneæ Flammæ*
to be flying Glowworms, or some other
shining Insects.

Pag. 205. See more of the Figures
and Phenomena of Snow and Hail in
Barthol. de Nive, Hook's Micrograph,
Boyle of Cold, Marten's Greenland Voyage,
Leuwenhoeck's Letters.

As for Mr. *Whiston's New Theory*, I am afraid
it will be found altogether inconsistent
with the *Mosaic History*, being adapted
only to the formation of our little Globe,
without taking in the Heavens (which
Moses is particular in) and depending too
much upon mechanical & necessary Laws
(as several other late Theories and Hypo-
theses do) whereby the Flood and Con-
flagration might be brought to pass
without any Relation to the Fall of Man
or Sin. For Comets and Eruptions of
boiling Abysses may frequently destroy
our Globe, by such Chains of Natural
Causes; Comets by the Laws of Trajecti-
on may dash and drown us with their
Tails, and the central Fire may drive
up the vast Abyss upon us, whether we

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sin or no; these *Phenomena* may befall the Moon and all the Planets, without any respect to Inhabitants, and may happen frequently by such Concourses and Links of Mechanism, and by the ordinary Laws of Motion. Therefore we ought to be cautious of making such Grand *Revolutions* to rowl upon Machines, as well as on the other hand of coining new Miracles and second Creations without any Warrant from Scripture; of the first I am afraid the *ingenious Mr. Whiston* is too guilty; and of the latter the learned *Dr. Nichols*. But considering we are in a Country of Liberty, and in an Age of Thought and Observation, I can easily pardon the Freedom they are pleas'd to take in their Studies and Enquiries.

Having lately met with an accurate Discourse of *Bernardini Ramazzini*, printed 4 Years ago in *Quarto*, concerning the subterraneous Waters, the several Layers or Beds of Earth upon deep diggings, the fossil Shells, Bones, Vegetables, Pavements, &c. as also upon Inundations, and Deluges, with their Effects, I thought fit here to acknowledge the many Obligations we owe to that

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Inquisitive Physicist for his various Observations on the Changes of the Earth about the Territory of *Modena*, which are equally commendable with those of *Columna* upon *Apulia*; *Dr. Hooke*, *Mr. Ray*, *Dr. Plot*, and *Dr. Lister* upon *England*; *Steno* upon *Tuscany*; *Scilla* and *Boccone* upon *Sicily* and *Malta*; to whose Discoveries little hath been added as yet, notwithstanding the high and mighty Pretences of a late *Author*, who, in an *Essay toward a Natural History of the Earth*, Pag. 37. throws Dirt upon those very Gentlemen, from whose Writings he hath made bold to borrow the best Part of the Observations in his Work: 'Tis also remarkable, how, Pag. 249, 252, 255, 256, 257, 259. he falls foul upon a very famous and reverend *Divine* for taking the same Philosophick Liberty, which he himself assumes in many Places of his *Essay*. As for his darling Notion (though none of his own) of *Specific Gravity*, 'tis notoriously false in Fact and Nature, for the Strata, Layers, or Beds of Sediments (out of which *Steno*, *Scilla*, *Grandin*, *Ramusinus*, and others, will have the Earth made up) do not lie according to their different Weights, or according

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according to the Statick Laws of descent of Solids in Fluids; for the Strata of Marble, and other Stone, of Lead, and other Metals, lye often near the top or Superficies, having many lighter Strata under them; and if all the Strata thro' the whole Globe could possibly be viewed and examined, I am confident the respective Order of specifick Gravity would not hold in any two together; and who can fancy, that the Parts of Ferns, Mosses, and other Plants, of Shells, Teeth, and other Bones, should equiponderate with those of Metallick Fossils; nay, oftentimes subside below them; and whoever views the Dimensions, Weight, Figure, and Place of those vast Natural Columns, call'd the *Devil's Causy in Ireland*, will be soon convinced of the Weakness of this Hypothesis. Their Origin therefore must be accounted for some other way than what *Colonna*, *Stene*, *Scilla*, *Bosconi*, *Gradini*, and others copying after them, have deliver'd concerning the Deluge and Inundations, Strata, Crusts, or Sediments according to the Laws of specifick Gravity; neither are the many Phenomena relating to their Situation,

expli-

explicable by any *Theories* of the Earth as yet publish'd; I know not what Dr. Hooke may do when he comes to print his Lectures upon this Subject, which the *Publick* expect, and very earnestly crave of him: Much also may be perform'd by the Learned Mr. Edward Lloyd, Keeper of the *Oxford Museum*, who hath been very diligent and accurate in his Observations on these Bodies, and whose Candor and Modesty, join'd with his exquisite Judgment, render him capable of such an Undertaking.

As to the Origine of subterraneous Plants, either digg'd out of Earthy Beds, or lodged within Stony Substances, or else impress'd upon them, which *Steno* in his *Prodromus* (translated by Mr. Oldenburg) Pag. 93/94, 95, will needs derive the same way with those of Shells, Teeth, Bones, and other Parts of Animals, buried in the like Strata or Sediments of the Deluge; Mr. Lloyd of Oxford has rais'd many invincible Objections against this *Stenonian Hypothesis* in the last Edition of *Cassini's Britannia*, Pag. 692, 693, and Mr. Ray in his second Preface to the *Synopsis of British Plants*, argues

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argues very Philosophically against this Opinion, reviv'd of late with great Assurance, and in a positive manner; but Mr. *Whiston* hath done very wisely in taking no notice of the many insuperable Difficulties which have been urg'd against the bringing in of these Bodies, and the forming our present Crusts and Layers of Earth, out of a general Deluge. He hath saved himself much Sweat and Pains in having Recourse only to two or three late Books, and in consulting Copies instead of Originals, which would have given more Strength and Beauty to his Work, and would have look't more masterly; however the Gentleman hath perform'd very well in the main, and hath shewn a profound and clear Knowledge in Physical Science, though not in the History of Learning, nor in that of Nature. His Conjectures are admirable, but his Quotations and References are not commendable, being injurious to those eminent Philosophers who were the first Inventors, and yet passed over in Silence, as though there had been no such Writers; many of their Observations being attributed by the Author of the New The-

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ry to ~~see~~ of his own Acquaintance, who
may do as much for him another time;
but I would not willingly accuse Mr.
Whiston of any ungenerous dealing, ha-
ving discover'd a noble Genius in the
Formation of his System; and therefore
I conclude with respect to him, and with
Charity to all Mankind.

The

The Contents of the first Part.

CHap. 1. *The Philosophical meaning of these Words (In the beginning God created the Heavens and the Earth,) and what may be concluded from them.*

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of Life.
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dy, which made the Sun; of reducing those lighter Fogs and waterish Mists into a Body, which made the Moon; how by clearing of the superlunary Firmament, or the Planetary Spheres, the Stars appear'd, and what the Sun, Moon, and Stars contribute towards the Production of sensitive or locomotive Animals, and why the Creation of these second Causes made the fourth Production.

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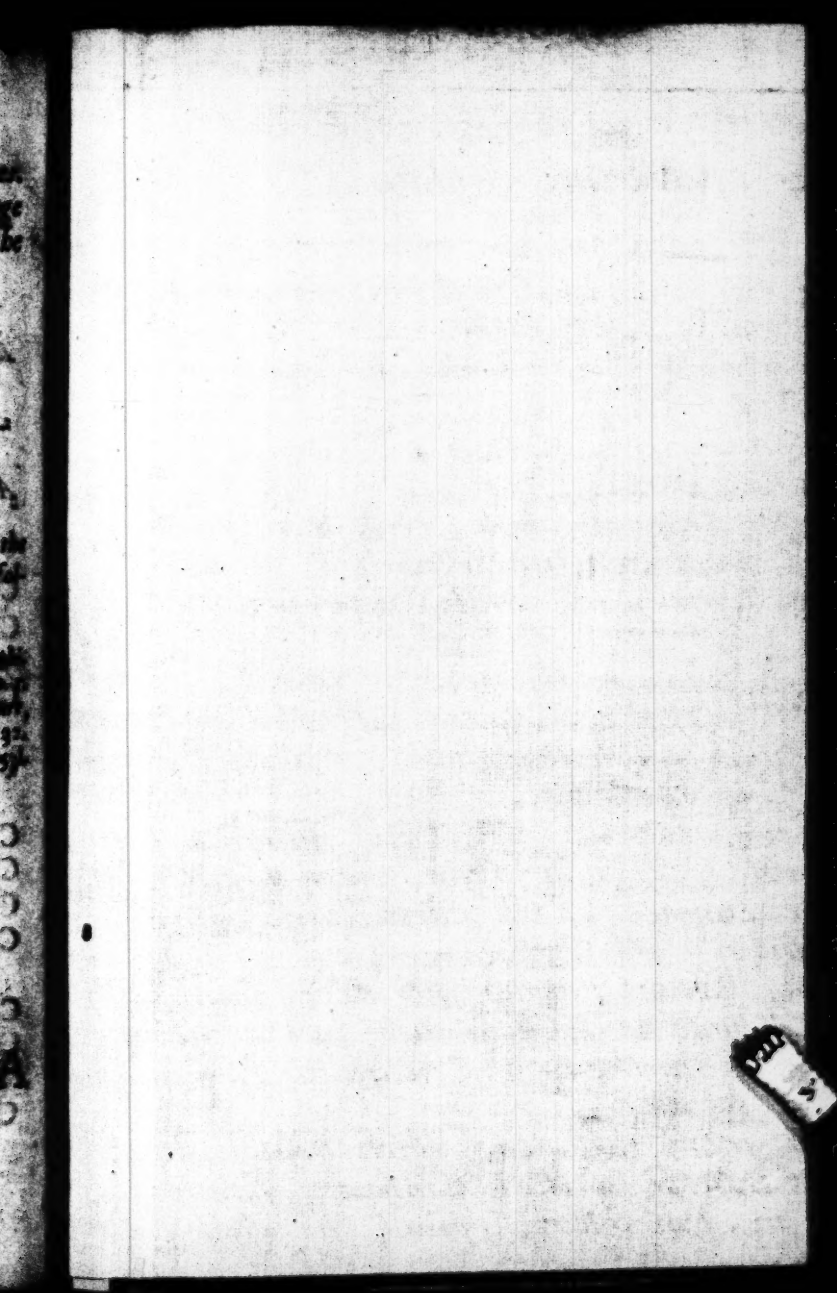
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Chap. 9. *Of Rain, Hail, and Snow.*

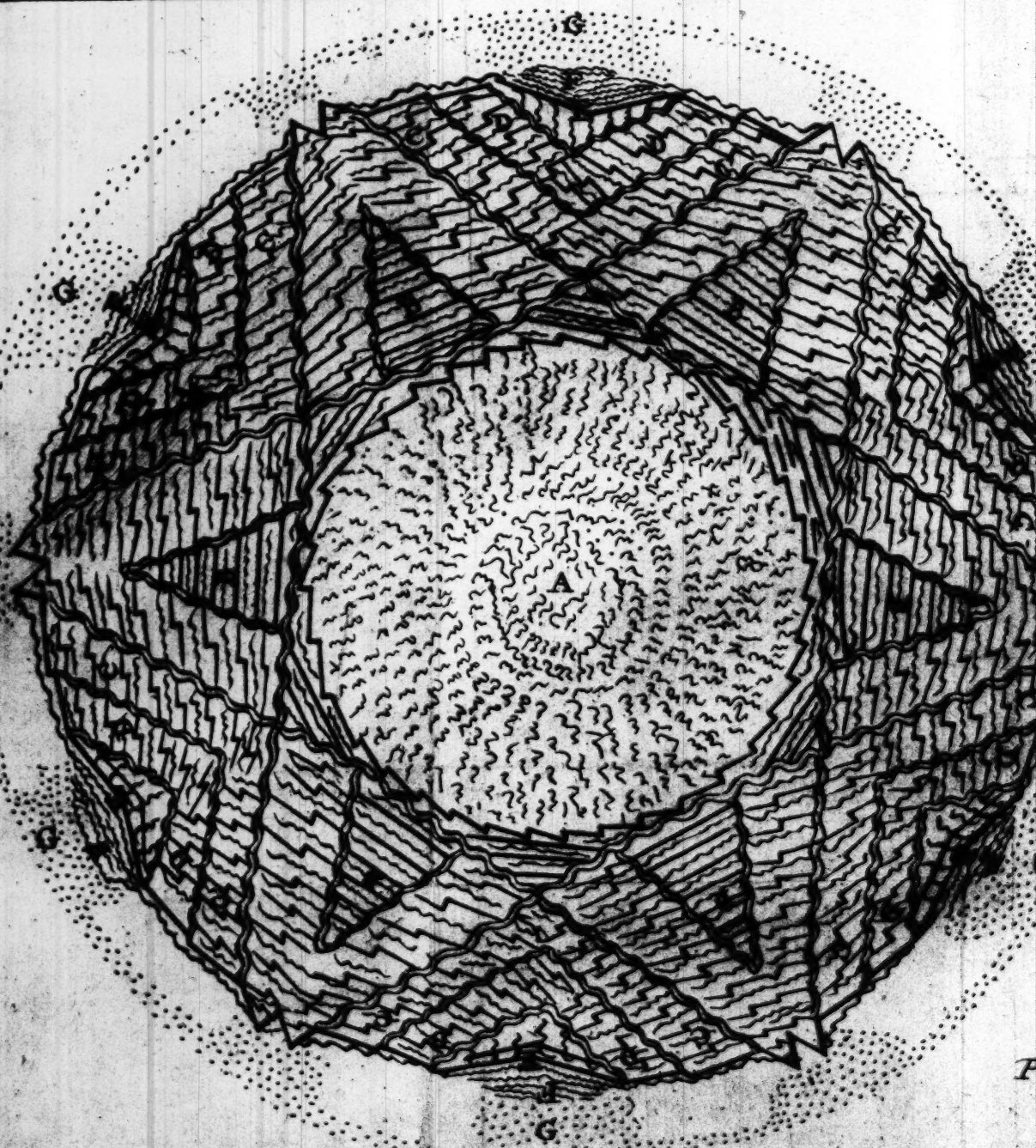
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Chap. 11. *Of Frost and Thaw.*

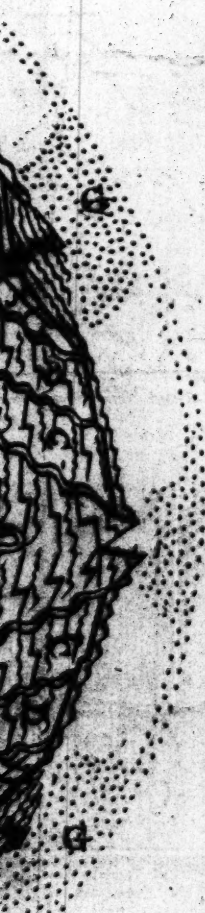
Chap.



A Scheme wherein the Several Phænomena



Phenomena of this Terraqueous Globe are Explained.



- A The Central Fire disseminating a vital heat, through the whole Cortex or Shell of the Globe.
- B The Mountains from the Centre to the Surface.
- C Heaths.
- D Plains.
- E The Channel of the Sea.
The flat Strata or Beds of Matter, with their Accretions to the Mountains and Declivities to the Sea, together with their Elevations and Depressions, thus described —
The winding and turnings of the greater Veins, Dividing the several Classes of Matter described thus —
~~~~~ through which the whole Mass of subterranean Water Circulates.  
Their Lesser Fibres, or Rami, Factions, filling all the flat Strata with feeders of Water, which breaking out upon the Surface of the Earth cause Springs &c. described thus. ~~~~~
- F The Seas with the Rivers flowing into them from the Tops of the Mountains swelling them into a Globosity; and causing in them a Continual Fermentation.
- G Vapors Arising from the Seas, which being Attracted by the Coldness of the Mountains, fixeth there; Forming an Atmosphere round the whole Globe.



when the World was Created, was  
 the beginning of Time; or when Time  
 first began to have a being; for before  
 the World was Created there was  
 no Time, or Space, Matter, or  
 Motion. **PART. I.**  
 An exact mention of Motion, it is  
 Motion began together

From this grand Idea we may con-  
 clude, First, that **God** who ended  
 your day many Arguments to prove  
 the **Philosophical meaning of these**  
**Words** is the beginning **God**  
 created the **Heavens and the**  
**Earth, and what was in each**  
 In the second place, we may say

It concludes against Fate and his  
 power, who is not only  
**WORKS in his Philosophical**  
**Declaration of the Creation**  
**Myself down as a granted**  
**Principle of a grand Idea**  
 at the **Heavens and the Earth**; with  
 their **Parts, Furniture and variety**  
**Natures contained in them**, were  
 created [at once], and that **God** the  
**being un-created, and inde-**  
**pendent, Almighty in Power, and in-**  
**finite in Wisdom and all Perfection,**  
 is the efficient cause: That the time-  
 B when

when the World was Created, was in the beginning of Time ; or when Time first began to have a Being ; for before the World was Created there was duration, or *Stabilis Eternitas* [as the Schoolmen express it] but Time being an equal mensuration of Motion, it and Motion began together.

From this grand *Thesis* we may conclude, First against *Aristotle*, who endeavour'd by many Arguments to prove that the World, as it now stands in Matter and Form, was Eternally ; which Hypothesis advanceth the World into an equality with God ; makes it its own efficient Cause, Uncreated and Independent.

In the Second place this *Thesis* concludes against *Plato* and his Followers ; who, tho' he did positively assert, that God made the World ; yet he did conceive that the Matter on which it did consist was Eternal and Pre-existent : By which Hypothesis he concludes God to be an impotent cause, not able to create the World without Matter and Stuff to work upon.

These mistaken Principles in Philosophy were occasion'd from the Observation of the regular course of Nature ; not considering that there might

be, other causes which might produce effects in another way than does ever come within the compass of such narrow observations; for hell Spiritual Causes produce their effects, tho' impossible for us to witness, we are confined to this dark state of Matter; wherein we have but a very short and narrow prospect, & understand only what is in our hand.

In the Third Chapter it denounces against Deists, who follow him, who did not only observe that Matter was Eternal and Indivisible; but that the World had no efficient Cause; that what was from Eternity, but the usual motion of Matter, which consisting of infinite number of Atoms, or little Globules of different Figures, Natures and Qualities, which mingled about in a vast and infinite Space, and at length by Divisions, & Separations, and Mixtures, composed their contrary, differing Qualities, and their innate Powers of Sympathy and Antipathy, & the last settled into the Form and Figure of this World, which it put no more able to vary from, as the nature of it be taught to change its Nature, and defend and Gravitation, as ascend and descend.

3.

4.



No doubt, but this Hypothesis was grounded upon an experimental Observation of the several Kinds of Matter of different Natures, which being mixt together in a Glass, when I imagined it Vell'd, will separate and divide their parts, & so be as it were, as if they were black and white together on a view, and

I shall not in this place show you the absurdity of this Hypothesis, but rather chose in the following Chapter to give some Account what Force, Motion and Motion will produce by reason of their contrary Qualities, and the power of Sympathy and Antipathy, and how far God Almighty might be able of these towards the forming the material part of this World, if it were so. We may hence further conclude, that although neither the World as it is, nor the Matter on which it consists, pre-exist, yet it was as immediately consequent of Eternity, and the nature of the Divine Essence, and Attributes (viz.) Power, Wisdom, and Goodness, according to that Model and Idea pre-conceived in the Divine Understandings. It is not to be imagin'd that the Divine Essence would for some time be

still,

and wrap up its self in God and  
riches; but the always display its self  
in a vigorous activity.

Besides the natural tendency of In-  
finite Power, is Action; of Infinite Wis-  
dom is Counsel; of Infinite Goodness is  
Beneficence. We cannot therefore but  
conclude from these Natural Arguments,  
that God would from all Eternity fol-  
low the Inclinations of his own Divine  
Perfections.

From this grand *True*, we may yet  
further conclude, that this Universal Fa-  
brick of the World was not created at  
one stroke, by an imperious Fiat; for  
tho' this might have been consistent with  
Infinite Power; yet it would not have  
been agreeable with Infinite Wisdom,  
which consists in Deliberation, Counsel  
and Continuance.

Moses therefore tells us that God  
first created the Heavens, and then the  
Earth: Like as some mighty Monarch  
designing to build a spacious and most  
glorious Palace, first forms the Model  
of it in his mind; and having prepar'd  
his Materials, lets on work his Under-  
agents, who first of all lay the Founda-  
tion, and complete his own Royal  
Apartment, then the Apartments of  
his

his chief Ministers of State, after the  
 Chambers for his Domesticks, and let  
 of all Lodgings for his out Servants,  
 and the Work being finish'd, accord-  
 ing to the Model which he gave his  
 Architect to work by, he gives it his  
 Approbation. In like manner the  
 Great and Almighty Monarch of the  
 Universe may be supposed, first to have  
 laid the Foundations of those Super-  
 Celestial Regions of unaccessable  
 Light, the Royal Chambers of his own  
 most Glorious Presence, where he is  
 in great Majesty attended with an  
 numerable retinue of the most Noble  
 Angels his Courtiers: After these he  
 creates the highest of the Celestial  
 Spheres, in which he placed Thousands  
 of Royal Mansions, where the An-  
 gels and Brighter Cherubim, the  
 chief Ministers of State in that Celestial  
 Kingdom keep their residence: And  
 these are the Morning Stars which  
 tell us [by way of *Synecdoche*] that  
 met together, and the Sons of God  
 that did shout for joy. After these God  
 created the inner or lower Spheres, in  
 which he placed innumerable number  
 of bright, lucid and æthereal Globes,  
 wherein the inferior Angels and Do-  
 mesticks

metlick Officers; do: inhabiting and these  
the Scripture stiles *Ministring Spirits*.

And these differ in Office, Power and  
Light; as they are placed in Spheres  
nearer, or at a distance from the Re-  
gions of Light: For as one Star differ-  
eth from another Star in Glory, Light,  
Purity and Magnitude: So do their  
Heavenly Inhabitants. And so shall it  
be in the Resurrection from the Dead;  
for as Men improve here in Vertue,  
Goodness, and the Divine Life and  
Light, so shall they be placed nearer, or  
at a distance from God, the Foun-  
tain of Life and Light.

(After the finishing of these inner  
Courts of this Royal Palace, last of all  
God created this Material Globe or  
Outer Court; and made it the Center  
of the Universe: And it's built of the  
Rubble, Dust and Sediment of the  
whole Creation, and inhabited with  
the meanest of Creatures; and lowest  
degree of Life and Perfection; which  
may most properly be called God's  
out Servants; over which he has pla-  
ced Man Deputy Lord Governour.

This Material Globe, tho it appears  
in its own dimensions to be of great  
Magnitude to us (who bear not so

much proportion to it, as a Molehill  
does to the greatest Mountain, yet being  
compared to the whole Universe [ &  
the computation of the best Philo-  
sophers be true ] it will scarce bear pro-  
portion to the Ninety six thousand  
part of it.

It cannot therefore be imagined that  
the Wise Creator [ who never makes  
any thing in vain, but to the best and  
wisest Purposes ] should be so full  
of a piece of dull stupid Matter, and  
create all those innumerable number  
of Bright, , Lusty, & Ederial Globes  
(the least of which exceeding this Mole-  
hill in Magnitude by several Diameters)  
for no other end or purpose than dis-  
tinguishing of Days, Months, Seasons  
and Years ; and for casting a daff  
glimmering light to us poor mortals.

As God Almighty finished any part of  
the Creation, he gave it a motion, and  
this motion it performs naturally and  
inseparably, without labour or difficulty,  
as our Blood circulates through our  
Veins and our Vital Spirits glide in the  
Nerves through the whole Body.

The Almighty having now finished  
the Creation which made up but one  
Royal Palace, containing in it innumerable

merable Mansions, fit for the Subjects of so great a Monarch to live in: He sits at the Helm of this Floating University, and Secures all its motions with a steady and unerring hand.

And it can be no more labour to God to govern and animate this World, who even the very Soul is diffused in it, and is really present in every part of it, than for a Man's rational Soul by Will and Cogitation, to move a Finger or a Toe, or any other part of his Body; tho at the greatest distance from

Government of all the rest.  
and that this God was the Father and  
Sustainer of the Heavens and the Earth;  
Almighty Creator of this World, con-  
fessing, who was the efficient Cause and  
Sustainer, that there was one Supreme  
God, of Mankind did universally  
had, set up for Divine Worship; the  
of various Deities which the World  
Yes notwithstanding this multitude  
their making of a Molten Calf at Horeb.  
part of Egyptian Gods as appears by  
Kara's Religion, well become Worshippers  
the Generality of Mankind, and Abolition  
and Idolatry had prevailed over  
When Moses wrote this commandment.

3d1

## C H A P. II.

Of God the Supreme and Efficient Cause; and why Moses wrote not the being of a God expressly by way of Argument; but implicitly by describing of the several degrees of Perfection, and the Subordinations of Life.

**W**HEN Moses writ this excellent System of the Creation, Polytheism and Idolatry had prevailed over the generality of Mankind, and Abraham's Posterity were become Worshipers of Egyptian Gods, as appears by their making of a Molten Calf at Horeb. Yet notwithstanding this multitude of Inferior Deities which the World had set up for Divine Worship; the generality of Mankind did universally believe, that there was one Supreme God, who was the efficient Cause and Almighty Creator of this World, consisting of the Heavens and the Earth; and that this God was the Father and Governour of all the rest.

The *Philosopher* might therefore justly conclude it superfluous to prove by strength of Argument a Tenet, or rather an Article of Faith; to which the common Suffrage of Mankind did so universally consent and agree. And it is be suppos'd that *Moses* writ this System of the Creation, with the rest of his Book, which gives an account of the Patriarchal Genealogies, on purpose for the benefit and instruction of the *Israelites*; who in all probability could not but be ignorant of the Traditions and Religion of their Ancestors: [the *wise dicunt*] of so great a *Philosopher*; a Man so eminent for these mighty and unparallel'd Miracles and Wonders, which th Almighty wrought by his Hand upon Egypt before their eyes; were sufficient to convince them, not only of a bare credibility; but of the Truth and Certainty of this Divine *Thesis*, that there was a God, and that he created the Heavens and the Earth.

But as God did not limit, and confine his Favours wholly to *Abraham's* Posterity; but extends them to the Universal Body of Mankind: So notwithstanding that *Moses* writ these Books for the instruction of that People

in the first place, he undoubtedly  
 sign'd them for the information of  
 them living in a State of Ignorance.  
 And therefore although he does  
 expressly by way of Argument prove  
 the Being of a God, and that he  
 is the Supreme Cause of the World's  
 Creation [*Atheism* Being not then  
 of in the World] yet he does it  
 chiefly by describing of those several  
 degrees and subordinations of Life in  
 the World, and by shewing how every  
 inferior Rank of Creatures is subservient  
 to its Superior; and how every  
 Rank or Species is concatenated and  
 linked to its Superior by intermediates,  
 which is so visible and obvious in the  
 Frame of the World, that an easy  
 Philosopher without any great difficulty  
 or hard Study may ascend Gradually  
 first from those common Minerals  
 Salt, Sulphur and Mercury, to the  
 several degrees and kinds of Ours and  
 Metals; from these to the fertile Soil;  
 from it to the several degrees of Life  
 and Perfection in Vegetables, as Grass,  
 Herbs, Plants, Shrubs, Trees, &c. and  
 from these to the *Zoophyta* or Plant-  
 Animals, which concatenates the high-  
 est degree of Vegetation to the lowest  
 degree

degree of Sensation; from the several degrees of Sensation in Brutal Animals, to Man which is an intermediate Animal, that links and couples Heaven and Earth together; from Man to the several degrees of Light, Life and Perfection in the Angelick Nature; and from the Intellectual Nature, to God the Fountain of Light, Life and Perfection; who, as one Universal Soul, animates the whole World, by giving of the several degrees of Life and Perfection up to all the Creatures in the Animal World, as they are placed in Order of Distance nearer or further from his Divine Essence.

Thus in God all Creatures move, and have their Being, and by their gradation we may observe the Order of Distance where God animates and gives Life and Perfection to all his Creatures, from thence descending to the lowest and last Region of Matter.

Observations to establish a general Conclusion especially concerning the impossibility of any thing's Existence, in a regular and systematic way of argument. **PROPOSITION** There may be Agents of another sort, and Powers which can produce Effects in another way, than could

...of Generation; from the several  
 ...General Animals.

# CHAP. III

*Of the Creation of Second Causes  
 and the manner of their Production  
 on, and ways of Working.*

**T**HE grand reason why Plato  
 [Aristotle] and the rest of the  
 natural Philosophers did assume as a  
 greatest Principle, that Nothing  
 made out of Nothing, and that every  
 thing produced, had necessarily some  
 pre-existent Matter out of which  
 was so formed; [as I have already  
 hinted] because they cou'd not  
 see in the ordinary course of Nature  
 any thing produced de novo; therefore  
 they concluded it impossible that  
 any such Production cou'd ever be  
 happen in Nature.

But from particular Experiments  
 Observations to establish a general Con-  
 clusion; especially concerning the impos-  
 sibility of any thing's Existence, is no re-  
 gular and warrantable way of argumen-  
 tation; for there may be Agents of an-  
 other Sort, and Powers which can pro-  
 duce Effects in another way, than cou'd  
 ever

ever come within the compass of our ob-  
 servation : for we see, and cannot but  
 make it an observation, that one sensi-  
 tive Animal by the power of Sensation  
 can do more, and produce greater ef-  
 fects, than all the Vegetables can pro-  
 duce by the power and strength of Ve-  
 getation. And one Man by the Power of  
 his Natural Reason can produce more  
 noble Effects, than all the Brute Animals  
 by the Strength of Sensation ; so one An-  
 gel by the Power and Vigour of his Spi-  
 ritual and Intellectual Nature can pro-  
 duce effects more great and wonderful,  
 than all the Men in the World can by the  
 power of Reason, tho' never so exalted  
 and sublimated : for we read in *Exod.*  
*19. Chap.* and *23. Verse* that an An-  
 gel in one night went out and smote in  
 the Camp of the *Assyrians* one Hundred  
 and fourscore and five thousand ; but  
 how or by what means this Angelick  
 power was exercised it is not within the  
 compass of shallow Reason to conceive :  
 Yet we may easily and confidently see  
 it, that if an Angel by the Power of  
 his Intellectual Nature, can do more  
 than all the Men in the World ; so  
 God Almighty by his Divine Essence  
 can produce greater and far more won-  
 derful

desert effects than the whole **Angelic**  
**Nature**, even such as is impossible  
 either for us, or them to understand.  
 But **Moses** having, to his great  
 provement, in **Natural Philosophy**  
 the Advantage of the **Patriarchal** **Re-**  
**velation**, and a **Divine Revelation**,  
 being best acquainted with **God's**  
 mighty Power in producing **Light**  
 both not only positively, when  
**God** was the **Maker** and **Builder**  
 of the **World**, but that He **Created**  
 out of **Nothing** on which it does consist  
 out of **Nothing**, and that by the  
 of that **Almighty Word** **Light** was  
 brought forth, for then there was no **Light**  
**and** **Darkness** in **Behemoth**, but **Light** was  
 brought forth by an **Act of Volition**, as  
 when we bring forth a **Flower** or a  
**Flower** out of **Nothing**.  
 The **Second Cause** which **God**  
 brought Down **Created** out of **Nothing**  
 and which he made use of as an **Instrument**  
 in the Production of a **First Cause**,  
 may be considered either as  
 necessary or as accidental.  
 The **Essential Causes** were **Light** and  
**Darkness**, the **External and Accidental**  
**Causes** were **Motion**, **Time**, and **Place**,  
 without which all **Natural Production**  
 is **Physically impossible**. **God**

God having created these Second Causes by another Imperious Word, set them on working; and he gave them also a Rule or Model to work by, which is most commonly called the Course of Nature; and when these new Agents had produced any effect, he view'd it, and gave it his Divine approbation, in these Words; *God saw that it was good* (i. e.) that it was agreeable with that Rule and Model he had given them to work by; which words, tho' they be spoken *ad Hominem*, yet undoubtedly *Moses* intended by them to instruct and inform Mankind, that the World was not made by Chance, or the casual Motion of blind Atoms, as some times have atheistically asserted; but, by Wisdom, Counsel and Deliberation.

And this establish'd Course of Nature, or these Laws and Rules which the Divine Wisdom gave to the Second Causes to work by, he never interrupts or varies from; but upon great and extraordinary occasions, when he is pleas'd to give some Demonstrations of his Almighty Power and Universal Providence by which he governs the World at his Will and Pleasure; then

he can either divert the Natural Causes from their usual course, or by them produce Supernatural Effects; as the destruction of *Sodom* and *Gomorrah* by extraordinary Thunder and Lightning; the Destruction of all living Creatures upon the face of the Earth by an Universal Deluge; or he can stop them in their Natural Course, as when he caused the Sea to divide and stand still, and the Sun to move backwards.

#### CHAP. IV.

*Of Light and Darknes, the common Principles of mix'd Bodies, what they were in Mass; and how they division made the first production.*

**A**Ll the Natural Philosophers wanting the assistance of a Divine Revelation, did agree in this; that there cou'd be no Production of a mixt Constitution, without a Sympathetical Union of an active and passive Principle; but what these Principles of Activity and Passivity were, they could not easily determine.

There

These our great Philosopher expresseth by the Names of Light and Darkness; which when they came immediately out of Gods hand, were bound up and hamper'd in one confus'd Mass; which might fitly be compar'd to a dark and palpable Mist, like the *Aegyptian* Darkness which was to be felt, in which vast Fog or Mist were bound up, and smother'd these bright, lucid and active Particles of pure and Volatile *Aether*, as we see Light inclos'd within the walls of a dark Lantern; or the active Particles of Fire when smother'd in Ashes, or imprison'd within the dark body of Matter.

Thus Darkness was upon the face of this thick Mist or Fog of Matter, until God by another Almighty Fiat created Motion; which being infus'd into the stagnating Mist of Matter, the whole Mass of it was put into a fermentation and motion; and whilst the contrary Qualities were acting their Antipathies one upon another, these nimble and active Particles of lucid *Aether* [being the most Volatile] broke through this dark Mass of Matter, and uniting themselves, caus'd a bright shining Light, which *Moses* calls

Day : and this division of Light from Darkness, occasion'd by the putting of the whole Mass of Matter into fermentation and Motion, made the first Production.

## CHAP. V.

Of Light, the formal Cause of all mixt Productions, what it was whilst in Mass.

**B**Y Light is to be understood that vast *Ethereal flame*, which whilst it was in Mass diffus'd its bright shining Rays, not only through the Material Regions, but the Planetary and Celestial Spheres : This *Ethereal flame* was the *Anima Mundi*, the Vehicle of Life, wherein was contain'd the Seminal and Specifick Forms of all sublimary Creatures, [Man only excepted] and then danc'd about the Passive Matter, like Atoms in the Morning Sun Beams, until its Prolifick Slime, by vertue of its Plastick Power was modifi'd and prepar'd for receiving of Life.

And this seems to be the sense and Philosophical meaning of *Moses* in the Second Chapter of *Genesis*, Verse the Fifth; God made every Plant of the Field before it was in the Earth, and every Herb of the Field before it grew; meaning only their Seminal and Specifick Forms which were contain'd in a Vehicle of Light, before they were united to their Material Vehicles.

Thus Light according to the *Ma-Jack* Principles of Natural Philosophy, became the Formal Cause or the Male Parent of all mixt Productions.

## C H A P. VI.

*Of Darknes, the material cause  
all mixt Productions; what it was  
in Mass, how it was reduc'd  
to Form: Of the Power of Matter  
and Motion: Of Sympathy and  
Antipathy.*

**B**y Darknes, the other Principle,  
Material cause of generation,  
not meant a bare privation of Light,  
but that vast Mist, or Dark Fog of  
Matter consisting of infinite Num-  
bers of Particles or little Corpuscles of  
different Figures, and contrary Quali-  
ties, which by reason of a Principle of  
motion infus'd into it, run a Reel in a  
dark confusion until these contrary  
Qualities of Heat and Cold, Siccity and  
Humidity; Gravitation and Levity,  
falling out among 'em selves begun to  
act their Antipathies upon one another;  
which causing them to separate and di-  
vide, those of the same kindred and  
affinity, by the Power of a Secret and  
Innate Sympathy drew together and  
united.

And

And first of all, these Particles of Matter, which were of a hot and volatile Nature, being most active and vigorous, plac'd themselves in the Centre or Middle, as we observe them always to do in Stacks of Hay, Corn, or other compositions of such Matters; wherein there is a strife or contest between those contrary Qualities of Heat and Cold, Siccity and Humidity.

And these hot and fiery Particles, having by their natural tendency taken possession of the Centre, begin immediately to exert their Antipathy upon those Particles of Matter the rest of a cold and watrish substance, forcing them to fly to the Circumference, and to range about in thick fogs and watrish Mists; filling up not only the vast Expansion between the superficies of the Earth and the sidereal Heavens, but all the Planetary spheres.

And so which consist between Heat and Cold, Fire and Water, the intermediate Nature of a mixt Nature, neither simply hot nor cold, but participating of both Natures (viz.) such as were of an Usticious, Pinguid, Bituminous and Terrestr. Quality, sedd themselves in a middle sphere.

And every Class of Matter of the same Kind and Species, the better to secure it self from intermixing with the Matter of a different Nature, did inclose it self with great Dykes or Partitions, consisting of Excrementitious, confus'd and undigested Matters, and the natural Position of these being Rake-wise from the surface towards the Centre, they most properly may be esteem'd the greater joynts of the Earth.

And in these divideth the several Kind of Matter, so they preserve the several Feeders and Mineral Waters from intermixing; as will be more largely shew'd when we shall have occasion to Discourse of Dykes, Rakes, Veins, Stripes, Riders, &c. on qu gailin : effim dmar  
The confus'd Mass of our Matter being thus reduc'd to several Classes and a regular Form, every Class leading to some proper Mind or Mineral, which is the finer and better digested part of that Class; as Coal, Ruddle, Iron and the several Kinds of Ores; and these all lay in lax and fluid Strata or Beds, like the loose Leaves in an unpress'd Volume or Book; or like the weak joynts in a newly conceiv'd Embrio.

Embryo, enclos'd in a Bag of Water  
in the Womb of its pregnant Mo-  
ther.

## CHAPTER VII.

Of the Spirit of God moving upon  
the face of the Waters, what is  
Philosophically meant by it. Of  
the first division of the Waters,  
and the clearing of the sublunary  
Firmament.

**T**HE whole Mass of Terrene  
Matter being thus far reduc'd,  
into Form and Order, [not according  
to the Laws of Gravity, the heaviest  
subsiding first in order and falling low-  
est, as Dr. Woodward conceives, which  
mistake in Observation will be made  
apparent in its proper place] [but by  
motion of consent, suitability of Na-  
tures, and an agreeable juxta-position  
of Parts.]

The Spirit of God moving upon the face  
of the Waters, which Words, if we con-  
sider

sider 'em under a Philosophical Notion  
 may be understood of the Ethereal  
 Flame, which moving upon those wa-  
 terish Fogs and Mists, rarifi'd the more  
 subtile and tenuious Parts or Fumes of  
 it into a brisk gale of cold condensing  
 Wind; which did not only clear up  
 the Sublunary Firmament by dividing  
 of those Fogs into Sublunary and Su-  
 perlunary Waters; but by condensing  
 the Sublunary Fogs and Mists into a  
 vast body of Water, it cover'd and  
 surrounded the whole Body of Terrene  
 Matter; and as the Waters sank down  
 towards the Centre, they press'd to-  
 gether the several *Strata* or Layers of  
 Stones, Mines, Minerals and other  
 Subterrene Earth, as we press together  
 the leaves of a large Volume; and in  
 our sinking and digging into the Body  
 of the Earth, we find them lying upon  
 Flats with a Dibe and Rise; the Rise  
 towards the tops of Mountains, and  
 the Dibe towards the main Oceans;  
 as the Waters left them and forc'd them  
 up, when they drew down into their  
 proper Channels.

The whole Mass of Terrene Matter  
 being thus Compact and Cemented to-  
 gether by the pressures of the circum-  
 ambient

ambient Waters; as we press Brick and Tyle in their several Moulds; the Central Fire did by its heat ball and consolidate those Stones, Metals, Minerals and Minerals that were of a fiery nature, as well as those of an unctuous and pinguid quality, into their several degrees of Consolidation and Induration; whilst the Anteperistical Cold, together with those petrifying juices of Salt and Nitre which then did abound in all the fix and undigested *Sintra*, did petrify those *Sintra* of a Terrene Nature into their several degrees of Induration and Lapidification.

By these Natural Gradations the Earth became fixt upon its Center, and the Waters a fluid body moving and circulating about it; and they both made one Terraqueous Globe of a Spherical and Mathematical Roundity; all the Lines from the Superficies to the Centre being of an equal length.

Thus the space between the surface of the Waters and the Moon's Vortex was cleared of all those Fogs and Mists which ranged about it. And being fill'd with their Air, Moses calls it the Firmament of Heaven, which made the second Production (*viz.*) of space,

space, wherein the Under-agents or second Causes had room to work, and produce effects of a higher and more noble Nature and Quality.

## CHAP. VII.

*The division of the lower Waters, into Subterranean, Superterranean, and Nubiferous; and by what Gradations the dry Land appeared.*

**T**HIS great Embrio was ready for birth and to breathe fresh Air; yet it could not be deliver'd from this great Bag of Water, where in it was enclos'd, by any innate Power it had in it self, without a Supernatural assistance. The Almighty was pleas'd therefore to play the Midwife, and to deliver it by breaking of this great body of Water; and by dividing of the sweet from those of a Saline and Brackish Nature.

For as soon as the intermediate Matter which made the Shell of the Earth, was reduc'd into Form and Order; and the

the several ~~Strata~~ or Layers of Stones, Metals, Minerals, and Subterrane Earths with their cross-cutting and dividing Dykes, Rakes, Ryders, Veins and Strings or Side-branches had receiv'd from the heat of the General fire and the petrifying Juices of Salt and Nitre, their several degrees of Rerustation, Induration and Lapidification; the thirsty Matter gradually suckt in the thin sweet Water, until all its Veins, Dykes, Cavities and Pores were fill'd and saturated with it.

The Salt Water being the Sediment of the whole Mass, and likewise being too thick to penetrate and pass through the strait Pores and Strainers of the solid and condensed Matter, did gradually draw down to its Channel: And all the Veins and Pores of the Earth being now Saturated with sweet Water; the Subterranean Lympheducts, or underground Water-works began first to bubble up and play from the tops of the highest Mountains; from whence the Rivers took their first rise, and began to form their courses to the Sea; and by their rapidity and weight continually pressing in upon her from all sides, swell'd her up into a Gibbosity, and forc'd

space, wherein the Under-agents or second Causes had room to work, and produce effects of a higher and more noble Nature and Quality.

## C H A P. VII.

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the several *Strata* or Layers of Stones, Metals, Minerals, and Subterranean Earths with their cross-cutting and dividing Dykes, Rakes, Ryders, Veins and Strata or Side-branches had receiv'd from the heat of the General fire and the petrifying Juices of Salt and Nitre, their several degrees of *Excrustation*, *Induration* and *Lapidification*; the thirry Matter gradually sucke in the thin sweet Water, until all its Veins, Dykes, Cavities and Pores were fill'd and saturated with it.

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forc'd her into a constant flux and re-  
 flux, which reciprocation of Motion  
 causing in her a boyling Fermentation,  
 the sweet Water does disentangle  
 self from the Salts, and being lighter  
 riseth up in Fumes and Vapours, which  
 fly abroad until they be condensed into  
 Clouds, which falling down in Showers  
 of sweet Water upon the Earth become  
 the *Succus Nutritivus* of the fleshy part  
 of it, giving not only a vital nourish-  
 ment to the several Kinds of Animals  
 living on the outer Coat or Skin of it,  
 but repairing the Subterranean Water  
 by preserving them from wasting. So  
 The Waters being now divided  
 to Superterranean, Subterranean, and  
 Nubiferous, the dry Land appear'd  
 and was gradually prepar'd for being  
 an habitable World.

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 to Superterranean, Subterranean, and  
 Nubiferous, the dry Land appear'd  
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 an habitable World.

## CHAP. IX.

Of the Primeval or Antidiluvian  
Figure of the Earth.

**D**R. BURNET, in his Theory of the Earth, conceits and endeavours to persuade the World, that the Primeval Earth was Spherically or Mathematically round, without Seas, Mountains or any inequalities upon its Surface.

Dr. Burnet's Incon-  
sistencies.

Which Hypothesis (or rather imagin-  
ous Conject) seems in the first place to  
be inconsistent with the Original Sense  
of this Material Globe, which being  
design'd for a place of Habitation for  
several Kinds of Animals of a mixt and  
compound'd Constitution, whose vi-  
tal flame is nourish'd and maintain'd by  
a continual respiration of a soft and  
vaporous Air; which must not only be  
frequently fann'd with the brisk gales  
and blasts of a cleansing Wind, but al-  
so moistned and sweetned with showers  
frequently falling through it: All  
which have their Original cause from  
the constant flux and reflux of the Sea,

The Cause  
of this  
Globe's At-  
mosphere.

and those inequalities upon the surface of the Earth: Without which there would neither have been an Atmosphere, Wind, Rain, or Air; but the Superficies of the Earth would have been [ by the Sun's Beams continually beating upon it ] Baked and crustified into the hardness of Brick and Tyle.

This Hypothesis seems also inconsistent with the different Natures of those Animals with which the Almighty Creator has been pleas'd to stock it; some of which being only produc'd in a Warm and Fertile Soil, others only in a Cold and Sterile: So some Animals delight only to breath a warm and soft Air, others a more bleak and piercing: The Strawberries and Gillflowers will not thrive upon the tops of cold and barren Mountains; nor Mountain Vegetables in the most fertile Soil, or best prepar'd warm Beds: This will be made more clear and evident when we shall give account of the natural uses of the Flux and Reflux of the Sea, and those inequalities and irregularities of the Earth's Surface.

Once more to suppose the Earth to have been of an even and Spherical Superficies

perfection seems inconsistent with the different Kinds and Natures of that Matter of which it consists; some of which being hard, others soft, some fix'd others fluid, it can't be imagin'd that all this variety of Matter would settle in a Figure Spherically and Mathematically round.

From these Arguments we may without being guilty of any great presumption, conclude against Dr. Barrow's Hypothesis, that as the Antediluvian Earth consisted of the same Matter with this present Earth, and produced the same Species of Animals, of the same Figures and Qualities, it was of the same Figure that now we find it in, a Terrestrial Globe of a Physical Roundness, with Seas, Mountains, &c.

And when these Irregularities and Inequalities of this Terrestrial Globe did not Date their Original from that Disruption which was occasion'd by the Deluge, as Dr. Wallis supposes by assents, Barrow ad page 84. is evident from page 46. where he undertakes to prove that the Face of the Earth before the Deluge was not smooth, even and uniform; but unequal, and distinguish'd with Mountains,

Dr. Wallis's  
con-  
dition  
of himself.

rains, Valleys, as also with Seas, Lakes  
and Rivers.

Of which it consists; some of which  
are hard, others soft, some dry, others  
moist, it cannot be imagined that

**C H A P. X.**

**Of the constituent parts of the Earth.**

**And first of the Volatile part of it,**  
**or the Central Fire, as it is called.**

**W**ell known is that as the Aristotelian  
philosophers of the same Matter with this

**T**he Constituent parts of this  
translucent Globular Matter

are three different Glasses of Matter,  
(viz.) Volatile, Fixed and Fluid, and

these bear equal proportion one to  
other, and in the Structure of the

Earth do occupy the same proportion  
of place.

**T**he Volatile Matter, consisting of  
sublimed Sulphur, Nitre and Salt

is the most subtle and most active  
part, and is all Matter of the same kind

and affinity, which having an impulsive  
Union, naturally affects one another

globular Figure, for their Mutual Firm-  
ness being dissolved, the same  
Form will be distinguished, and

Dr. W. H.  
non-  
noisib  
to insis

That



also the Circulation of the whole Mass of Blood through all the greater and lesser Veins of it; so the Central Fire is as well the cause of the Ebullition of Springs, *Therms* and *Mineral Fountains* which break out upon the tops of Mountains and the exterior parts of the Earth; as of the constant Circulation of the whole Mass of Subterranean Water through those Dykes, Flakes and Fissures, which split the Mountains to divide and spread themselves through the whole Body of the Earth, and are the greatest and lesser Veins of it.

3. Use.

As it is said, as the great Flame gives rise to the different colours of the Blood, Flesh and all the heterogeneous parts of the Body; so the Central Fire, by the different degrees of combustion and boiling up of Matter, gives to the several parts of it their different Figures and Colours; this might be illustrated by several Analogous Experiments and Observations, as in the boiling of Quicksilver and other Fluids, so likewise in Baking of Bread, &c.

4. Use.

The Central Fire, by turning a perpetual Round within the Boundaries of its own Infernal Yard, describes the Shell of the Earth about with it,

it, and is the cause of its Diurnal Motion.

Lastly, It is the Earth's Equilibrium, 5. Use.  
that keeps it fix'd upon its Center and

## CHAP. XI.

Of the fixt part of the Earth: And

first of the Inequalities of its Surface: their Natural Causes, and Uses.

**T**HE fixt part of this Terrestrial Globe which we call the Earth, may be describ'd either as to its Exterior parts, or Interior consistencies of

The Exterior parts consist of Mountains, Heaths, Dales, Plains, Vallies, with the Channels of the Sea.

The Interior consistencies of it are the Seats or Beds of Stones, Metals, Mines, Minerals and Subterranean Earth, all lying upon Flats with a Dike and

Or they are Dikes, Rakes, Bleds, Veins and Strings either cross-cutting

and dividing the several kinds of  
Stones, Metals, Mines, Minerals, &c.  
of a different kind; or cross-binding  
and dividing those of the same Species  
as all Metallick Rakes, &c.

### Of the Inequalities of the Earths Surface.

1. Use.

**T**he Inequalities and Inequali-  
ties upon the Superficies of the  
Earth, are occasion'd by the Eleva-  
tions and Depressions of the solid Strata;  
and these are caus'd either by the  
greater Dikes, which divide the  
greater Stones, &c. from those of a  
different kind; and the greater Dikes  
make Channels and Water-courses for  
the greater Rivers, which following  
their windings and turnings till they  
empty themselves into the Sea, cause  
all those pleasant Dikes, which at last,  
when the Mountains wear out, dilate  
themselves into spacious Plains and  
Valleys.

2. Use.

The lesser Dikes and Joynts which  
divide the Stones, &c. of the same  
kind, by throwing them up and down,  
cause

cause all those lesser Hills, which as well delight the Eye with a grateful variety of Objects, as refrigerate and cherish the whole Body with a more cool, clear and wholesome Air.

The Cause  
of Hills.

to not  
ignit?

There is not any thing in this Natural World, that contributes more towards the making of it Habitable, than these inequalities upon its Surface.

For, First, they occasion all these different Kinds and Natures of Soil, which produce the several Species of Vegetables suitable to the several Natures of those Animals that feed upon them: The Earth's Surface being God's Storehouse, wherein is provided Food and Nourishment agreeable to the Nature of every Animal, and every living Creature by a Natural Instinct knows its proper Food and Nourishment, and when and where to find it.

I.  
The Cause  
of different  
Soils and  
Natures of  
Vegetables.

They occasion all these different qualities of the Air, as Warm, Cold, Thick, Thin, Moist and Dry, for as God has provided Food suitable to the several Natures to feed on, so He has provided Air suitable to their Natures to Breathe in.

2.  
The different  
Qualities of the  
Air.

3.  
The occasion of Springs, &c.

Those Inequalities upon the Earth occasion all those Springs, Mineral Feeders and Medicinal Waters, which break out in Rapid Streams from the Tops of Mountains, and the Skirts of lesser Hills; so that as God has provided convenient Food for every Animal to feed upon, and agreeable Air to breath in; He has likewise [by causing of Springs to break forth and bubble up at the Foot almost of every Hill] provided convenient Water for every Animal to quench its Thirst with.

Whereas if the Earth had been even and Spherical Superficies, covered with one solid Strata, or incruusted Cover of Earth; I doubt we should have been forc'd to have Digg'd as deep as Dr. Burnet and Dr. Woodward's Abyss, before we should have met with Water sufficient to have quench'd our Thirst; and it is also doubtful that when we had found it, it would not have been Sweet and Wholesome.

4.  
Of the breaking out of Mines, &c.

These Inequalities also cause the several Strata of Bronze, Silver and Ore, &c. [having a Natural Rise] to break forth at Day, so that the ingenious and Industrious Miner may meet with,

with, not only Stone for Building of Houses, Coals for his Fires, but the several Kinds of Ore to enrich his Coffers with.

These Inequalities also produce all those Pleasant and most Profitable Copises and Thickets of all Kinds of Trees, which delight most to grow where the solid Beds of Stone are weak and broken and lye near day, and where they may easily thrust their Roots into their broken Joints and suck in the Mineral Spirits,

5.  
Of the production of Trees, &c.

## CHAP. XII.

*Of Mountains, their Original Cause, Consistence, and Natural Use, being the first Dry Land that appears.*

THE Mountains are the Ebullition of Matter, occasion'd by the Central Fire, when it was in its full Strength and Vigour.

They

The Cause of Mountains.

sharp and  
The occa-  
sion of  
Springs,  
&c.

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4.  
Of the  
breaking  
out of  
Miners, &c.

These Inequalities also cause the several Strata of Stones, Minerals and Ores, &c. [having a Natural Rise] to break forth at Day, so that the ingenious and Industrious Miner may meet with,

walk, not only Stone for Building of Houses, Coals for his Fires, but several Kinds of Ore to enrich his Coals with.

These Inequalities also produce all those Pleasant and most Profitable Coppies and Thickets of all Kinds of Trees, which delight most to grow where the solid Beds of Stone are weak and broken and lye near day, and where they may easily thrust their Roots into their broken Joints and suck in the Mineral Spirits, &c.

5.  
Of the production of Trees, &c.

## CHAP. XII

Of Mountains, their Original Cause, Consistence, and Natural Use; being the first Dry Land that appears.

THE Mountains are the Ebullition of Matter occasion'd by the Central Fire, when it was in the first Solidity and Vigour.

The Cause of Mountains.

They

1. Use. Their Con-  
sistences. They consist of such Strata of Stones,  
Metals, Raggs, Chivers, Galls, &c. as  
are of a Hot quality; and these are  
like so many Hot-beds wherein the  
several kinds of Ores receiv'd their Con-  
coctions, as well as their different de-  
grees of Concoction and Perfection;  
as hereafter will be more fully shew'd.

2. Use. Their Na-  
tural Uses. The Mountains consisting of such  
Matter as is of a Hot Quality, and be-  
ing bound with strong Galls, which ha-  
ving a quicker Rise than those upon  
the Plains, do lift up their Heads above  
the rest of the Earth; and became not  
only the great Pillars and Supporters  
of the whole Fabrick; but the first Ser-  
Banks that broke the Circulation of the  
Waters, and were the first dry Land  
that appear'd.

3. Use. The Tops of the Mountains reaching  
so high as the cold Regions of the Air;  
and having but the advantage of a single  
Reflection of the Sun's Globuli, have  
always a Cold and Condensing Air  
upon them, and striking a Level with  
the Gibbosity of the Sea, do by the  
Sympathy between Cold and Cold at-  
tract the Vapours to them, which either  
fall down in Showers of Rain, being  
Condens'd by the rising of the Ground  
Cold

Cold; or are rarified into Wind by the falling of the Sphere of Rarification on which term will be hereafter explained when we describe the Nature of Winds.

All the greatest Dikes and Divisions of the Earth, [as I have already observ'd] do contract themselves and meet in the Mountains, as the Veins do in the Neck of Animals; and these being the greater Veins of the Earth, by dividing into lesser Veins and Branches, maintain and preserve a constant Communication or Circulation of Waters through the whole Body.

And this is the only Reason why the Heads of all the greatest Rivers in the World have their Rise from the Tops or Sides of the highest Mountains; which by following of the Windings and Turnings of these greater Dikes or Veins, and by receiving into them the lesser Dike-Branches, are increased from small Rivers into large and Navigable Rivers, which at the last empty themselves into the Main Ocean.

The Declivity of the Mountains gives Rapidity of Motion to the Rivers, which does not only preserve their Sweetness for the benefit of Men and Beasts; but

also

4. Use

5. Use.

also by pressing upon the Sea from all sides, swell her up into a Gibbosity, and is the only cause of her Flux and Reflux, which the following Chapter will give account of.

6. Use. <sup>and</sup> As the Declivity of the Mountain gives Rapidity of Motion to the Rivers, so it gives Motion to the Winds and Air: For as the Condensation of Vapours causeth an Inundation in the Waters, so the Rarefaction of the Vapours and Exhalations causeth an Inundation and Overflowing in the Air. And those Lateral blasts of Wind that come so strong upon us, are only Waves of the Air, and the roaring Noise we oftentimes hear upon the Mountains, is only the breaking forth of the Wind upon the still Body of the Air, and the erupting of it into a rapid Motion, which is increased by the Defect of the Mountain, for Air and Water are the same in Species, differing only in degrees of Thinness and Fluidity.

7. Use. <sup>and</sup> As the Mountains are the great Pillars and Supporters of the Earth, the Foundations all meeting in the Center, and forming that vast Subterranean Vault, which keeps the Central Fire from breaking forth, so they are the great

est Ornament of its Superficies; giving not only a most pleasant Prospect over the Plains and Valleys, but terminating the Visive Faculty with a grateful variety of Objects.

The Mountains have their Natural Position either in Ridges or Clusters; those we see in Clusters intermixt

The position of Mountains.

with great Dales, Gills and Valleys were [at the first settling of Matter] all of an even Superficies; but their Joints and divisions consisting of Ruff, Ragg, Cliver and such confused Matter, without strong Gills or Scraps of Stones to bind them together, were by violent Storms and Tempests of Rain, &c. but especially by Nois Flood, broken and driven down into the Valleys, and from thence into the next adjacent Sea.

The figure of Mountains.

And this is the Reason why some Mountains have a Perpendicular Rise, why their Ribs and Sides are naked and frightful, threatening to fall upon us; and these great Dikes and Joints are either fill'd with Ponds of water, which afford great plenty of Fish; or they are become pleasant Valleys, Gills and Dales; having a fruitful Soil and the warmest Sun, by reason

The Cause of Gills, Dales and Valleys.

of

of its Beams being Reflected from all  
sides of the Mountains  
not only a most pleasant  
the Plains and Valleys, but terminating  
the Active Faculty with a grateful vari-

C H A P. XIII.

The Mountains have their Natural T: position  
of Mountains  
those we see in Clusters intermixed  
with great Dale, Gills and Valleys were

OF Mountain Heaths, &c.

THE Mountain Heaths, as upon  
the Skirts of Mountains towards  
the Sea, their Consistence and several  
Species are rather of a Pinguid, Bitum-  
on and Nitrous, than of a Hot and  
Sulphureous Quality, and they general-  
ly lead to Mines of Copper, which are  
the Porphyretick parts of such Mountains.  
Stones and Metals are their support-  
ment; the principal and more Econom-  
tical Ingredients whereof are Bitumen,  
Sulphur and Nitron; Bitumen gives the  
Stone, Nitron blows it up, and Sulphur  
gives the Heat; and why their Rids and  
Dale, Gills and Valleys are so  
dividing  
Dike, parts of rough Channels and  
turn of various Masses; These Moun-  
tain Heaths were the second dry Land  
that appeared for as the Sea did gra-  
dually draw down, into its Channels  
its unruly Waves drove up these latter  
Hills

The Ingre-  
dients of  
Coal.

The Cause  
of Gills,  
Dale and  
Valleys.

Little  
Mountains.

Hills we see upon the Skirts of the Mountains, and forc'd their Strata of Stones, Metals, &c. to have a Rile towards them, thereby making a Channel so spacious as might contain so Vast a Body of Water, and keep its proud Waves within their proper Limits.

The Cause of the Channel of the Sea.

Their Stones, Metals, &c. had their degrees of Incrustation and Lapidification from the Central Fire.

XXV. A. P. XIV.

Of the Channel of the Sea. XIV.

Of the Plains and Hills, &c. A  
The last dry Land that appear'd  
was the Plains and Valleys  
which by the Depression of their sides  
sank down into the Channel of the  
Sea: the Consistencies of these are ra-  
ther of a Terrene and Nitrous than a  
Fragrant Quality.  
They afford us the best Examples  
as White, Grey, Red and Yellow  
these Tinctures and Colours they re-  
ceiv'd from those different degrees of  
Concoction they had from the Cen-  
tral Fire; and the degrees of Lapi-  
dification

fiction and Induration they receive from the Antepetritic Cold, and Rectifying Joints. Their Strata have a case Dibs towards the Sea, sometimes not a Yard at fifty; for as the Water divided, their Strength abated, and the Flat Strata laid more level.

## CHAP. XV.

### *Of the Channel of the Sea, &c.*

As the Valley sink down gradually into the Channel of the Sea, so the Channel is only a spacious Valley as far depressed before the Surface of the Earth, as the Mountains and mountainous Heaths are advanced above it.

In Confluences are of a Terrene, Nitrous, Mercurial and Saline Quality, which is the reason the Sea and Wind by a violent Heat run into a Gassy Substance. And why the most precious Pearls are found in that part.

Concoction they had from the Centrifugal and the degrees of Latitude



The Cause  
of the Sea  
Gibbosity.

Rivers to Incorporate with them, which is the same reason why the River swells her up on both sides of the Shoar. Thus the weight of the Sea water over-balancing the weight of the Sweet-waters causeth the Sea to burst in the middle, and by the greater weight and strength of her Waves forceth the Invaders to retreat and back until the Salt-water has lost her weight and strength, and this is the cause of its Flux.

The Cause  
of the Sea  
Gibbosity.

The Salt-water having thus lost her weight and strength, the River is double their force, and by the force of their Motion and Weight their Waves forceth the Salt-water to a gradual and orderly Retreat, which swells up into such a height of Overflow that its weight again over-balances the weight and strength of the River, and thus is the cause of its Reflux.

The Cause  
of its Re-  
flux.

The Cause  
of Spring-  
Tides and  
Dead-  
Tides.

Thus the Flux and Reflux of the Sea is occasioned by the continual war between the Fresh-water and the Salt-water. The Spring-tides and Dead-tides are occasioned by the gradual Increase and Decrease of the Reciproction of the Motion, as we observe in the Spring-tide of a Clock in giving six Back Strokes at every Fifth.

The

This continual Strife between the Fresh-water and the Salt causeth a constant Heat and Fermentation in the Sea; and this boiling Fermentation causeth the Sweet River-water to fly up in Mills and Vapours, which causeth an Atmosphere to be round the whole Terrestrial Globe; and when these Mills and Vapours are condensed into Clouds they fall down in Showers of Sweet Rain upon the Surface of the Earth.

Thus tho' the Sea affords no Sweet-water, yet it is the only Medium which preserves and maintains a constant communication and circulation between the Subterranean and Aerial Waters.

The Saline Quality of the Sea is occasioned by her being boiled up into a Boilment by the Central Fire; as well as those Rocks of Mineral Salt that are found in her Channel.

This Saline Quality of the Sea does not only preserve that vast Body of Water from Corrupting; but by causing her Water to be thicker and heavier than those in the Fresh Rivers, it makes them more able to bear Burthen of much greater weight, and fitter to maintain a Correspondence and Communication

The Cause of the Seas Fermentation, and the Cause of the Seas Fermentation.

The Cause of the Saltness of the Sea.

In Uses.

alone  
The proportion

which the  
Subterra-  
nean Wa-  
ter bears  
to the Sea.

munication of Trade between Land and Land, tho' at the greatest distance.

Tho' the Sea and Main Ocean seem to contain a vast quantity of Water, yet is being compar'd to the Subterranean Waters which circulate through the Veins of that great Body, and are contain'd in the Strata and Pores of dens'd Matters, it will scarce bear the same proportion to them that One does to Seventy-two; for if the Computation of those Learned Men be true who give Account that the Sea and Main Ocean cover but one half of the Globe, and that the Channel of the Sea is but one German Mile Deep [the Shallows being compar'd to the Deep] then it would necessarily follow that if the Earth were Mathematically Round, it would cover the whole Globe only half a German Mile, which bears but Proportion to the Circumference of the Earth, as Half a Mile does to Twenty-one thousand six hundred Miles. Again, the Diameter of Twenty-one thousand six hundred Miles being Seven thousand two hundred, of which if we allow a Semidiameter to the Center or Belly of the Earth there will remain Three thousand six hundred Miles for the Shell or Body

Body of it, to which Three thousand six hundred the Fluid part of Superterrestrial Water can bear no less Proportion than One to an Hundred; which Computations being granted (and indeed they cannot reasonably be denied) in the whole Body of the Earth, there will be found Thirty-six ~~thousand~~ Miles of Fluid Matter, which bears proportion to the Seventy-two Superterrestrial Seas or Oceans.

To strengthen this Hypothesis we may further add that in sinking of Pits, the deeper we sink, we raise the more Water; and that Stone or Mine of Coal which at Three Fathom Deep runs six Tubbs of Water in one Hour, containing Thirty Gallons a-piece, at Six Fathom it will double the Number, and so on till the Water be invincible; as in Hogheads full of Water the highest Tap runs slowly, because there is little weight of Water upon it, but the middle or lowest Tap will run double and treble the Quantity in the same time, there being double and treble the weight of Water upon it.

Again, If we do further add that besides the Water that circulates in the Veins of the Earth, there is so much

of Water Intermix'd and Incorporated with the First and Solid Matter, that is Stone, Metal, or Coal [when its Dig'd out of its Living Strata or Beds] is immediately expos'd to the Sun or Fire, it will in a short time want of Weight above an Hundredth part, the First part being Exhal'd.

Of the greater Veins of the Earth, &c.

The greater Dikes or Veins in the Earth are Principally Four; The First divides and changes the Mountain Strata from the Mountain Heaths; The Second divides those several Kinds of Stone &c. of which the Mountain Heaths Consist, from those of the Plains and Valleys; The Third divides those Beds and Layers of Matter on which the Plains and Valleys consist, from the Channel of the Sea; The Fourth Runs under the Channel of the Sea, whose Side-Branches causeth all those Submarine Quick-Sands which are the warm Beds wherein the Sea-fish catch their Eggs for the Propagation of their several Kinds: As this, so all the rest of the greater Dikes and Veins have their Side-Branches filling all the Strata of Stones, Metals, Minerals and Subterranean Earths with Water; so that where ever we sink into the Body of the

the Earth, as soon as we prick [with our Digging Instruments those Kells of Clay &c. which divide the several Strata] we presently raise their Feed-

And if any [who being prompt'd either to gratifie his Natural Curiosity, or gain some considerable Advantage to himself] would raise a new River upon dry Ground, let him go to the Foot of some Hill or Rising Ground, and begin a Level-Drift, which by crossing of the several Strata of that Rising Earth, he will Tap and set at Liberty all the Feeders; and if he drive on till he shall cross over with the Drift one Branch of those greater Dikes, he will raise a considerable River, which may turn to his great Advantage.

To raise new Rivers upon dry Ground.

the Earth, as soon as we pick [up]  
our Digging Instruments those Kells  
of Clay which [are] the [several]  
[we presently raise their head-]

*Of those Preternatural Accidents  
that Disturb and Interrupt the  
Course of Nature in this Material  
World &c.*

To raise  
new Rivers  
upon dry  
Ground.

**H**AVING in the former Chap-  
ter given an Account of the Ori-  
gins, Causes, Continuances and Na-  
tures of the several Parts of this Na-  
tural Globe, as well fix'd as Fluid: It will  
not be improper to subjoin an Account  
of such Preternatural Accidents as some-  
times have disturb'd, and may for the  
future interrupt the regular Course of  
Nature; and at the last so far destroy  
the Frame and Fabrick of this Material  
Part of it, as to render it incapable of  
being an Habitable World.

And these are Earthquakes, Hurri-  
canes, Vulcano's, violent Eruptions  
of the Subterranean Waters, as at  
Noah's Flood; Stagnations of the Sub-  
terranean Air, causing the Springs and  
Mineral Feeders to sink down into the  
Interior Parts of the Earth; Interrup-  
tion

tion of the Circulation of Vapours, and Rains upon the Earth (as in the days of *Elifha* the Prophet); violent and Preternatural Thunders, such as destroy'd *Sodom* and *Gomorrah*. These and the like, <sup>TO</sup> are the Accidental Distempers that have happen'd in the Body of the Earth, and they seem Analogous to those Fevers, Agues, Convulsions, &c. which interrupt the Healthful Constitution of our own Bodies, and are sometimes destructive of 'em: And as all the Diseases and Distempers our Bodies are subject to, have their Original from Accidental Heats or Colds, which either Sublimates and Exalts our Animal Spirits into a Feverish degree of Volatility; or by Cold and Aquous Damps depresseth them into a degree of Stagnation.

So all those Accidental and Preternatural Disturbances that happen in the Course of Nature, have their original Cause, from the several Kinds and Natures of Damps, which are

Central, Subterranean, or Aerial.

And

## And are of Quality

tion of the Circulation of Vapours  
and Rains upon the Earth (as in the  
days of Elias the Prophet a violent  
and Protracted Famine, such as  
destroy'd 700000 the People of  
and the like, or  
tempests that have happened in the Bo-  
dy of the Earth, and they seem An-

alogous to those Fevers, Agues, Con-  
vulsions, &c. which interrupt the  
Healthful Circulation of our own Bo-

## C H A P. XVII.

*Of the Central Damps: Their Causes,  
Effects, Nature, and Dreadful Effects  
upon the Globe.*

**T**HE Subterranean Vault being  
filled with a confused Mass of  
undigested Matter, Consisting of Sub-  
limat'd Sulphur, Bitumen and Nitre,  
whenever it happens that there arises  
a War between these angry Volatiles,  
and their Fluid Neighbours (viz.) the  
Subterranean Water and Air, which  
Circulates through those greater Vessels  
that environ this large Vault; and do  
not only Feed and Nourish that Infer-  
nal Smother, but keep and confine it  
within its own Boundaries, that it  
break

A Subter-  
ranean  
conceit be-  
tween Fire  
and Water.

break not forth in violent Eruptions upon the flat body of the Earth.

As soon as this Intermine War commenceth, these Active Volatiles of Sublimated Sulphur, Bitumen and Nitre, collect and aggregate into great Bodies.

And when these discharge in the Central part of the Vault, the Nitre which is the principal Cause of the grand Effort of *Plata*, discharges and expands its self on all sides, upwards and downwards Indifferently: And this violent Effort of *Plata* causeth an universal Concussion of the whole Globe.

When the Damp gathers towards the Circumference of the Vault, and there dischargeth it self, the grand *Plata* hath its Tendency upwards; and sometimes causeth a Concussion of one half of the Globe, without any Eruption of Fire.

When the Damp Fires upon some Clais of the Superincumbent Strata, it either spalls them, making Cracks and Chasins in the Exterior parts of the Earth for some Miles in length, which at the instant of the Shock openeth, and in the Interval between the Shocks closeth again: [Of this Kind was that Crack

1.

A Concussion of the whole Globe.

2.

A Concussion of half the Globe.

A Local Earthquake.

A Local Earthquake.

Crack or Chasm which opened and swallow'd up the Tents of *Korah*, *Dathan* and *Abiram*; and no doubt, but the Shock struck a Terror into the whole Camp.]

Or if the grand *Plasma* be very Strong and Vehement, it either elevates the whole Class above the Superficies of the Earth, forming a new Mountain; or else it sinks down into the Vault, and the vacant place is immediately fill'd with Water. [not from Dr. Woodward's Abyss] but from the Veins of the Earth which break into it.

When the Damp fires near or upon some of the great Joints or Cliffs of the Earth, the *Plasma* pursues all the Windings and Turnings of these Joints and Cliffs until it break forth in Dreadful Hurricanes; either under the Sea, occasioning most Horrible Disorders and Perturbations, raising its Surface into Prodigious Waves, Tossing and Rowling them about in most strange Whirlpools, Overturning and Swallowing up Ships in an instant; And upon the dry Land Overturning Cities, Towns, Blowing up Mountains, &c.

Tho' these Effects of the Subterranean Nitre when Rarified and Dilated by the Central Flame be very Dreadful; yet if these Fissures and Spiracles through which they get a Vent and break out upon the Earth had been Perpendicular [as Dr. Woodward Conjectures] they wou'd have Destroy'd the whole Surface of it.

For then every one of these lesser Damps or Squibs which daily take Fire in the Subterranean Veins, wou'd have broken out upon us.

And the greater Damp being Fired wou'd have Blown up not only the Habitations of the Earth, but also the Heavens, let with its Superficies into the Air for the deere the Failure of which in it be Perpendicular in a straight line, the more Strength and Impetuosity it gives to the Flatus, as we observe in Guns and Forces.

Again, The very Sulphureous Exhalations which wou'd have ascended through these Perpendicular Fissures without Interruption, wou'd [with their Noisome Smell] have Suffocated and Suffled those Animals that Live by Respiration, and wou'd have afforded Matter for continual Thunder in the Air.

Dr. Woodward's  
conjecture is  
mistaken  
in observing  
that the  
fissures are  
not  
perpendicular  
to the surface  
of the Earth.

2.

It

Dr. Woodward's notion of perpendicular Figures is a mistake in observation.

It was then most agreeable with the Sense of this Habitable Globe that these Figures or joints of the Earth should have their Position from the Surface to the Center in crooked Lines with various windings and turnings, opening and closings; not only for securing us from those dangerous Effects of the Central and Terrene Damps, but also for the better and more commodious Communication of the subterranean Waters through the Flat parts of Matter.

And lastly, That the subterranean Waters by following of the windings and turnings of these greater Figures might have a longer Journey to the Sea and thereby supply the Necessities of the Earth with sweet Waters at a more Commodious and convenient Distance.

These Phenomena of Central Damps, and that they are the only cause of all those Universal Earth quakes that have happened in this Natural World, being wholly new, and the world not yet acquainted with them, may at first sight seem only the Product of Fancy, or mere Conjecture; yet if seriously and impartially enquir'd into, will be

must be grounded upon such Reason, as  
cannot without a pre-judic'd Opinion be  
easily deny'd.

For it cannot be imagin'd by any  
who have made it their Business to un-  
derstand the Structure of the Earth,  
that several *Chains* of Solid and Dense  
Matter on which it consists, the wide  
Intervals between those *Dikes* and  
*Firibanks* which divide them, and the  
Subterranean Water Courses, that  
there shou'd be Magazines of Subter-  
ranean Gunpowder lodg'd in inter-  
nal Cavities round the whole Globe,  
and that there shou'd be Trains laid  
from one Collection to another, and  
that all these Trains shou'd take Fire  
through all the Subterranean Rivers in  
one instant of Time. Neither can it rea-  
sonably be suppos'd that there shou'd  
be a Concussion of the whole or half,  
or any considerable part of the Globe,  
by one Subterranean *Flatus*; but what  
is from the Central Vault.

Again, The Consistences of the  
greatest part of the Earth being rather  
of a Cold, Terrene and Mercurial, than  
of a Bituminous Nitrous and Sulphure-  
ous Quality, it cannot be suppos'd that  
those parts of the Earth which afford

no quantities of this Natural Gunpowder should suffer a Concussion or Earthquake, but from these Central Dangers.

Besides those Miners who have just descend into these Occult Regions, from their own Experience, since it was there were no Grotes or Caves above an Hundred Fathoms deep, but in these Mountainous Countries where the Consistencies are of a Phenomenal and Nitrous Quality, showing plenty of Natural Gunpowder, which being kindle all those, as we find of in History.

and that there should be Trains laid from one Collection to another, and that all these Trains should take Fire through all the Subterranean Rivers in one instant of Time. Neither can it reasonably be supposed that there should

be a Concussion of the whole or part, or any considerable part of the Globe, by one Subterranean Flame; but what is from the Central Vault.

Again, The Consistencies of the greatest part of the Earth being rather of a Bituminous Nitrous and Sulphureous Quality, it cannot be supposed that those parts of the Earth which afford

*Of Terrene Damps, and their Dread-  
ful Effects upon this Globe &c.*

**T**Errene Damps have their Original either from Heat or Cold, and are either Fiery or Waterish: Those which have their Original from Fire, are of the same Nature with those Central Damps we have given Account of.

As all Local Earth-quakes do more frequently happen in the Mountainous Countries, than in the Plains and Valleys; because all the greater Dikes, Joints and Veins of the Earth, contract and meet there: And the *Flatus* which is the occasion of the Shock makes its way by what passage soever it can get Vent.

But these Mountainous Countries especially, which yield great store of Sulphur, Bitumen, and chiefly Nitre [these Minerals affording the greatest plenty of Natural Gun-powder] are most injur'd by those dreadful Shocks, because those Mountains whose Natu-

Of Burn-  
ing Moun-  
tains.

ral Consistences are of so Hot and Fiery a Quality are commonly very Cavernous; and their greater Joints and Fissures, as well as strong Strata having by frequent Concussions and Earthquakes lost their Natural Feeders, are become the most proper Receptacles for those Fiery Stores to be lodg'd in, either the Central Fire, or their own Natural Heat being contracted into a Point, Discharge first the lowest Damp, and the rest by Trains like so many Subalterns discharge in Course, and sometimes for several Months together, till the Subterranean Gun-powder be all spent.

Vulcano's.

And these Burning Mountains such as *Ætna, Vesuvius, Hecla*, and others, are only so many Spiracles or *Vulcano's* serving for the discharge of these Subterranean Damps, which disgorgeth Flames of Fire, and Stones of great Weight and Substance, Showers of Sand and Rivers of melted Minerals; and yet these Mountains by those *Vulcano's* lose nothing of their Height or Magnitude, all these Eruptions being Recruited out of the great Magazine of Natural Gun-powder contain'd in the Infernal Vault.

Be-

Besides these Damps of a Fiery Nature contained in the Interior parts of the Earth, there are others which sometimes happens in the Exterior parts of it; such as those Fiery Damps in Collieries are only the Perspirations of Sulphur and Nitre out of the Coal, Wall or Mine, Collected into a Body; and these either take Fire at a Candle, or like so many dry Exhalations receiv'd into the Body of a Cloud, and discharge like Thunder strikes the Earth about the Colliery, kills the Miners, and have other Dreadful Effects.

Her damps  
in Col-  
liers.

Their Ef-  
fects.

To these we may add those Preternatural Ebullitions and Eruptions of Subterranean Waters, which *Moses* calls the *Breaking up of the Foundations of the great Deep*. And these whenever they happen upon the Earth [as at *Nabal's Flood*] are occasion'd by an Universal Fermentation and Distention of the Central Fire, which gaining ground upon their Fluid Neighbours, force them into a most Rapid Motion through all the Subterranean Vents, and consequently causeth those Violent Eruptions of Water in all the Springs, Rivers, Joins and Fissures of the Earth.

Violent  
Eruptions  
of Water.

Of water  
Damps.

Sometimes the Circulation of the Subterranean Waters stagnates, and sinks down into the Interior parts of the Earth; the Springs and Rivers dry up, as in the days of *Elisee*. And this is occasion'd by the stifling and damping of the Central Heat, the Circumambient Waters prevailing upon it.

Sometimes the Circumbient Air which Circulates in the Exterior part of the Earth, especially the Caverns, Joints and Concavities of Rocky Stones and other Metals [and is the only cause of the Eruption and Motion of Springs, Rivers, &c.] Damps and Stagnates, which forceth the Springs and Eruptions of Waters to stand back and fill those Caverns and Joints, from whence they flow until the weight of the Waters break the Damp, or rather Damm of Stagnated Air; and then follows Eruptions and Overflowings of Springs, Rivers, &c.

An Air  
Damp.

This kind of Damps I have met with sometimes in Colleries, where the Water made way for it self in such Joints and open Closers, as it met with in the under Cills; especially Lime-stone, which is of all Stone the most Jointy and Open.

And

And when the Air in these open Joints and Cavities was damp, the Waters stood back in the Working, and forc'd the Miners out of the Pit, until the weight broke the Damp, and then the Waters Drain'd

This Damp most frequently happens in the Summer Months, when the Ambient Air is Thick with Hot and Fiery Exhalations, and the Effluvia of sweet Blossoms, especially of Peas and Beans. And this the Miners call the sweet Damp. A sweet Damp.

This Stagnation and Damping of the Subterranean Air is [in all probability] the cause of the Annual Over-flowing of the River *Nilus*, the Horary Over-flowing of the Spring at *Gigleswick* in *Torkshire*, the Drumming in the Well at *Bastry*, &c.

And these being by Men of Learning reckon'd among the *Magnalia Nature*, we shall enquire more particularly into the Causes of them: And first of the Over-flowing of *Nilus*.

*Nilus* is one of the Noblest Rivers in the World, and is famous not only for the long Course it takes through *Ethiopia* and *Egypt*, which is suppos'd to be Three thousand Miles before it empty's it self into the Mediterranean

The over-flowing of *Nilus*.

See; but also for its Over-flowing and Fertilizing that Low and Level Country, supplying in it the want of Rain.

'Tis believ'd by Men of great Learning that this Yearly Over-flowing of that Country is occasion'd by the great quantities of Snow dissolv'd upon the Mountains, from whence it takes its Rise; and these [as Geographers give Account] are that vast Ridge of Mountains, which for their Height bear the Name of *Montes Luna*, as if their lofty Tops wash'd their Heads in the Moon's Waterish Vortex.

Others are of Opinion that the Yearly Over-flowing of that River is caus'd by those great Rains which fall every Spring in the higher *Ethiopia*: But if either the Dissolution of Snow, or Inundations caus'd by the falling of those Spring-Rains, were the true Reason, &c. they wou'd also cause the other Rivers in those Countries to Overflow their Banks at the same time; which is so far from being Observable, that when *Nilus* Over-flows, the other Rivers are at a very low Ebb.

The Cause then of this Yearly Over-flowing of *Nilus*, which begins about the 17th of June and continues until the

the 6th of *October*, seems to be a Subterranean Damp, which Yearly Stag-nates the Circulation of Air in these vast Rocks and open Strata, from whence those Rapid Springs and Feed-ers flow, which are the Heads of that Famous River.

The Subterranean Air being Damp, the Springs and Mineral Feeders are forc'd to stand back and fill all those vast Concavities and Hollows for several Miles upon the Side-rise, and some Miles upon the Top-rise of those Rocks and Metals; until the weight of so vast a quantity of Water [which may be compar'd to a lesser Sea] breaks the Damp or Dam of Stagnated Air, and then the River begins to Over-flow, and continues until the Waters be spent, and the Damp gathers again.

Its observ'd that when the River *Ni-*lus begins to Over-flow its Banks, that great Plagues break out in *Cairo*, which seems to be occasion'd by those gross Vapours and Mineral Exhalations that arise from so vast a quantity of Stagnated Water, which [whilst by its Motion, its Purging of it self and recovering of its Sweetness] fly about, corrupt the Air, and cause Infections.

The over-  
flowing of  
the *Gigles-*  
*wick*  
Spring.

This Subterranean Damp is likewise the cause of the Horary Over-flowing of the Spring at *Gigleswick* in *Yorkshire*; for this Spring being the feeder of a Limestone Rock near Thirty Yards Perpendicular in Height, which breaks out at the Foot of it; so often as the Circulation of the Air in the Rock is damp, the Spring runs very slowly, and when the weight of the Water has broken the Damp, it Over-flows, and the Flux and Reflux is once in every Hour.

I observ'd my self, that before the Waters began to Flow there was a knocking in the Rock, and this was caused by the pressing of the Water upon the Damp before it broke.

The drum-  
ming Well  
at *Bantry*.

The same is the cause of that Drumming in the Well at *Bantry*, which the Inhabitants of the Town, told me never happen'd but against the change of Government: This Well is observ'd to be for the most part Dry, which is occasion'd by the feeders standing back; the drumming noise is occasion'd by the Waters pressing upon the Damp, and the Hollows of the Well; for as soon as the Damp is broken, the Well fills with Water and the Drumming is over.

This

This occasions the Report of Under-  
ground Spirits, which Miners call Mineral  
Spirits; and they observe that these <sup>Mineral</sup> Spirits give notice by Knocking or  
Groaning before the Mineral Vein be  
discover'd : I have observ'd my self  
that in a new Collierie, when the Work-  
men were near the Coal (and only the  
Kell which kept the feeder of it unbro-  
ken] there wou'd have been a sort of  
Knocking, Sighing or Groaning heard  
in the Vein, which was only occasion'd  
by the weight of the Water lying in  
the Coal, and pressing forward for  
more room and liberty ; for as soon as  
the Coal was prick'd, the Water rose in  
the Pit, the Knocking was over and the  
Mineral Spirit Conjur'd.

Of this kind also is that Damp which <sup>Foal Air.</sup>  
the Miners sometimes meet with in their  
sinking of deep Pits and new Works ;  
where a Cloud of Breath or Sweat per-  
spiring from the Bodies of the Work-  
men, will stifle the Circulation of the  
Air, and not suffer the Candles to  
Burn. This Damp will steal the Breath  
insensibly from the Workmen and stifle  
'em.

There is yet another kind of Damp the  
Miners complain of, which they call the  
foul

fool or stinking Damp; and this is caused by the breaking out of corrupted Air from old crusted Works. This, if not prevented, will Kill and Stifle the Workmen.

The Aerial Damps will be treated upon in Meteorologic.

Having given an Account of the Causes, Natures and Effects of Damps, and such Preter-natural Accidents as have and may disturb and interrupt the regular Course of Nature; we cannot but make an Enquiry into the Causes of Noah's Flood, the Season of the Year when it happen'd, and the Alterations and Devastations it made upon the Earth,

## C H A P. XX.

Of Noah's Flood, its Causes, the Season of the Year when it happen'd, the Effects and Alterations it made upon the Earth.

If these two Learn'd Men (*viz.*) Dr. Burnet and Dr. Woodward had understood better the Structure of the Terraqueous Globe, the Natural Consistences of it, the Causes, Natures and Effects of Damps, and that those Subterranean Waters which Circulate through the Veins of the Earth bears proportion to seventy two Oceans, they wou'd have discover'd such a quantity of Water as wou'd have caus'd an Universal Deluge without the Conceit of a Central or Subterranean Abyss.

Which Hypothesis [tho' manag'd with the greatest Artifice of Invention and Oratory] when seriously examin'd into, will be found to have very little of Truth in the bottom of it; for it seems not only inconsistent with the Original Settlement of Matter, as we have

have observ'd already ; but also with Dr. Woodward's Hypothesis concerning the re-settling of the fluid Matter dissolv'd by the Deluge which he positively asserts to have been according to the Rules of Specifick Gravity ; the heaviest subsiding the lowest.

1. This Hypothesis if taken for granted, we must necessarily conclude from it, that all those kinds of ponderous Or, and heaviest Rocks of Iron, Stone, Marble, &c. would have sunk down into the Central Vault and fill'd it up.
2. That the rest of the Fix'd Matter being by some degree lighter would have spread their Solid Strata uppermost.
3. And that the Fluid Waters being by several degrees lighter than the Fix'd Matter, would have cover'd the whole Terrene Globe, and consequently wou'd have caus'd an Universal and perpetual Deluge upon the Earth.

But suppose it possible to improve the strength of Imagination to such a height, as to fancy that there was Originally, and is still, a vast Abyss of Hot Water contain'd in the Center of the Earth ; it cannot be so easily apprehended by what Power or Means this vast substance of Water shou'd be  
 over  
 put

put into so high a degree of Fermentation and Commotion, as to cause a Universal Disruption and Dissolution of the Earth, as Dr. Woodward conceives; for although that Fire placed under a Pot fill'd with Water, will by emitting of its fiery Globuli, and mingling them with the Water, cause so violent an Ebullition and Commotion in it, as to raise the Cover and overturn it; yet it cannot be suppos'd that either that uniform and constant Fire or Heat, disseminated through the Body of the Earth, or the external Heat of the Sun's warm Influence can produce any such Effects; because Fire and Nitre do Naturally exert their power upwards and sides way, but never downward; but when it is so pent up that it can get no other Vent: And when even Gun-powder is forc'd to make its Effort upon the Waters, the strength of its Flame does little Execution, being presently stifl'd. We shall therefore suspend further Enquiry about this matter, until Dr. Woodward's larger Volume be made publick, and endeavour to find out some other Causes by which that Universal Deluge which happen'd in Noah's time might be effected in an other way, and ground-

grounded upon fair probabilities of Reason and Certainty.

I.

First then, no doubt but God Almighty was the Principal Cause, the Sin of Mankind the provoking Cause, and the Subterranean Superterranean and Nubiferous Waters were the immediate Instruments of it.

But how all these divided Water should be re-united and gather'd into such a Body as was sufficient to cover all the Tops of the Mountains Fifteen Cubits high, as *Moses* gives Account, is the only matter of difficulty to be encounter'd.

In Order to which, I shall not detain you with a long Story of the Opinions of Learned Men about it, but undertake to shew you upon what improbable Grounds and inconsistencies the Theorist and Dr. Woodward have establish'd their Hypothesis of it; but having discover'd a Vast and Portentous Body of Water Circulating in the Veins of the Earth, bearing Proportion [as I have observ'd] to Seventy-two Oceans, and several Oceans of Water more floating in the Clouds and rarified into thin Air [that it might be a fit Medium for Respiration, &c.] my Adven-

ture, shall be first to shew how, and by what Cause, the Subterranean VVater was rais'd above Ground, and the thin Air was condens'd into VVater; how both join'd with the Sea, and caus'd the Deluge.

And then Secondly, I shall give Account how the Waters again divid'd; how all things return'd to their Natural Course; and by what Gradations the dry Land appear'd: And more than this is not necessary to make and establish a clear Hypothesis of the Universal Deluge.

First then, we may conclude, from Arguments of the greatest probability imaginable, that the collection and reuniting of such a quantity of Water as was sufficient to Drown the World, was caus'd by an Universal Damp that happen'd at that time in the whole Course of Nature.

For, First, all the Central Fire by a Preternatural Fermentation and Dilatation of those angry Volatiles on which it consists, gain'd ground upon its Fluid Neighbours, those Subterranean Waters which circulate in the Body of the Earth, and forcing them into a most rapid Ebullition and Commotion, caus'd most violent

1.

2.

3.

violent Eruptions in all the Vents, Joins, Fissures and Hyats, as well under the Channel of the Sea, as in all the parts of the Earth's Surface.

The meaning of these words, the Fountains of the great Deep were broken up.

The Cause of the Aerial Damp and its Effects.

What is meant by the opening of the Windows of Heaven.

These violent Eruptions of the Submarine and Subterranean Waters, which *Moses* calls the breaking up of the Fountains of the great Deep, swell'd up the Sea into such a height of Gibbosity that it forc'd the Rivers to stand back, and rise as high as their Fountain Heads, which covering all the dry Land, excepting the Tops of the highest Mountains; the Aerial Damp caus'd by the Moon's waterish *Vortex* pressing down the *Vortex* or Atmosphere of this Terrestrial Globe, did not only interrupt the Communication of the Subterranean and Aerial Waters, by causing the raising and circulation of Vapours to cease; but also by condensing the moist Air into waterish Clouds, which falling down in continual Spouts for Forty Days and Nights together [the Air being without Motion, consequently neither able to break, nor support them] the Tops of the highest Mountains were cover'd Fifteen Cubits, as *Moses* gives Account, *Gen. 7. 15.* and these portentous Rains which fell in

Spouts

Spouts, *Moses* expresseth by the opening  
of the Windows of Heaven, Gen. 7:11.

Thus the divided Waters being re-  
turned as they were in the Creation,  
and the circulation of Vapours broken  
by the stagnation and damping of the  
Aerial Regions, the whole Surface of  
the Earth was covered, until God  
caused a Wind to pass over the Earth,  
which breaking the Aerial Damp, the  
Rain ceased, the Subterranean Waters  
sank down into their Vents, recovered  
the Ground which the Central Fire had  
gained from them. The Rivers returned  
to the Sea to retreat back to her own  
Channel, and returning to her regular  
Flux and Reflux, the Vapours rose  
and repaid the Air again with Clouds  
and Moisture, and all things returned  
to their Natural Course. It cannot  
be imagin'd how the Heart of *Noah* and  
his Family was reviv'd when the Sun  
began to shew its Face again, and  
the Rain-Bow appear'd in a broken  
Cloud.

For *Noah* being undoubtedly as well  
a Natural Philosopher as a Priest in his  
Family, the appearance of a Rain-Bow  
[which after a long Storm is an infalli-  
ble sign of Fair-weather] could not

The mean-  
ing of the  
Wind  
which God  
caused to  
pass over  
the Earth,  
and its ef-  
fects.

What the  
Rain-bows  
appearing  
in the  
Clouds did  
signifie.

but encourage him with hopes that the  
Damp was broken and the Storm o-  
ver.

God therefore made a Covenant  
with Noah and his Posterity that there  
shou'd never be an Universal Deluge  
upon the Earth, Gen. 9. 23. and to  
establish this Covenant with him, he  
made the Rain-Bow [being a Waterish  
Meteor, and after a Storm a sign of  
Fair-weather] a most proper and  
significant Sign and Seal of that Cove-  
nant [viz.] a Sign commemorative of  
the past Deluge, and a Seal confirma-  
tive that there shou'd never be any more  
Flood to destroy the Earth. And so  
more than this seems to be meant by  
the appearance of the Rain-Bow in the  
Cloud.

For Noah being undoubtedly a  
Patriarch, the appearance of a Rain-Bow in the  
Clouds after a long Storm is an image of the  
appearance of Fair-weather, and the  
signification of the Covenant.

It seems then most probable that the  
 Universal Deluge commenced in the  
 Month we call May, when the Seeds

*Of the Season of the Year when the  
 Deluge happened.*

and the dry Land had for some time

**D**R. Woodward declared his Opinion;  
 that the Deluge commenced in  
 the Spring Season in the Month we call  
 May; but upon what Reason he grounds  
 this Conjecture I cannot easily apprehend.

The time  
 when the  
 Deluge  
 commenced.

A Refuta-  
 tion of Dr.  
 Woodward's  
 Hypothe-  
 sis, &c.

For the Fruits of the Earth being  
 then but Growing; and the former Au-  
 tumn Seeds being destroyed by the by-  
 past Winter, Nature would have been  
 forced to a Spontaneous Production of  
 the several kinds of Vegetables and  
 lost their Seeds. And when the several  
 Species of Animals which were pre-  
 served from the Flood, had liberty to  
 go abroad and seek Food, they would  
 not easily have found it in November  
 and December, which Months accord-  
 ing to his Hypothesis were the Months  
 when the Waters abated, and the  
 Beasts could not have the usual  
 sort of common Food which they could  
 find in the Month of March, God ordered

The time  
when the  
Deluge  
commen-  
ced.

It seems then most probable that the Universal Deluge commenc'd in that Month we call *August*, when the Seeds of all Vegetables were full Ripe, and ready to Sow themselves in the Fertile Soil, that when the Deluge was over, and the dry Land had for some time appear'd, and had receiv'd much In-  
 fertillation from the Warm Influence of an approaching Sun, these Seeds being mingl'd with a warm and watery Soil, might be ready to Spring up and supply the Animals with plentiful Food.

We likewise observe, that when the Dove was sent forth by Noah the first time, she brought with her a Leafy Branch from an Olive Tree. When she was sent forth a third time, she returned no more, showing some Food upon the Earth; which could be no other than Corn, growing upon the Surface of the watery Earth. *Agost*, *Mosur* gives us an Account that in the First Month, which probably answer'd our *January*, the Waters were dry'd up from the Face of the Earth, and upon the 7th Day of the Second Month, which seems to be our *February* or *March*, God order'd all

the Beasts in the Ark, to be turn'd out to Grass, and shift for themselves.

Again, we find daily not only great Trees of several Kinds, [as Oak, Birch, &c.] rooted up by the Roots, and lying upon Heaps bury'd and Entomb'd in great Mosses where they never had grown; but had been brought thither by that general Devastation made by the Deluge. But Hazel-Nuts, whose Kernels are as fresh as if they had been lately growing upon the Trees. These Nuts having been scatter'd there by the Deluge, and having lay'd there bury'd and entomb'd in those Bituminous Mosses to this Day, and in all probability might have been continu'd as long as the Earth. From these Observations, we may reasonably infer, that the Flood commenc'd when the Seeds of all Vegetables were Ripe for the propagation of their kind. We may yet farther add, that all Damps as well Subterranean as Aerial, most frequently happen in the Autumn Season.

Experience tells us that there is much Dissolving power or quality in the Subterranean or Aerial Vapors, and these were the

## C H A P. XXII.

Of the Alterations which Noah's  
Flood made in, and upon the  
Earth.

I cannot agree with Dr. Woodward's Hypothesis, wherein he asserts that during the time of the Deluge, whilst the Water was out upon, and cover'd the Terrestrial Globe, all the Stone and Marble with the Metals and Mineral Concretions, &c. of the Antediluvian Earth, were totally Dissolv'd, and their constituent Corpuſcles all dijoin'd, their cohesion perfectly ceasing, &c.

Dr. Woodward's Hypothesis concerning the effects of the Deluge Refuted.

This Hypothesis seems inconsistent with Sense and Experience, as well as Natural Reason and Scripture, (especially the Mosaic Account of the Deluge.) For First,

I.

Experience tells us, that there is no such Dissolving power or quality either in the Subterranean or Aerial Waters as to effect such a Dissolution as he describes, and these were the im-

immediate Instruments of the De-  
 luge. T

It cannot reasonably be supposed

[without a Miracle] that all the Solid

consistences of the Earth should be dis-

solv'd into a Fluid substance; and a-

gain resettle and receive their sever-

al degrees of consolidation in so short

a time as the Flood continued upon the

Earth.

If the Earth suffer'd by the Deluge

a Total and Universal Dissolution, then

all those form'd Stones and Shells

which the Dr. conceives to be Marine

Bodies born forth of the Sea, by the

Universal Deluge, and left behind at

land when the Waters return'd, wou'd

have lost their Form and Shape, these

being not only found upon the surface

of the Earth, but in the interior parts

of it, incorporated with several solid

Strata of Stone, as well upon the

Mountains as Plains.

not only the solid Fossils, but

also Sand, Earth, Animate Bodies, parts

of Animals, Bones and Teeth, Shells,

Vegetables and parts of Vegetables,

made

G 4

made

made

made

- made the common and confus'd Mass,  
dissolv'd into a Fluid substance: That  
the whole Species of Vegetables, Root  
and Branch, Stock and Seed, would  
have been lost; and Nature destroy'd,  
a Flood thus rais'd. *Reflection, 2.* as in the  
Creation; consider but a corn b'nd  
- ev'l rich savor has shew'd his  
gain retentive and receive their love  
5. The Preserving of the world's stock  
Mistakenly according to the Rules of Spontane-  
ous Gravity, the heaviest subsiding  
lowest, is a grand mistake in Observati-  
on; *by the same Rule, the Earth*  
3. *would have been covered with a Uni-*  
*versal Deluge, as well as Universal Deluge, is*  
which the Lord already observ'd. *Ch. 1.*  
Bodies born forth of the Sea, by  
6. *As this Hypothesis is inconsistent*  
with Sense, Reason and Experience, so  
is it with the Account Moses gives of  
the Universal Deluge; for he tells us  
that there were Mountains during the  
prevalency of the Water, and that  
the Flood cover'd the Tops of these  
Fifteen Cubits. He tells us likewise,  
that the first dry Land that appear'd,  
was the Top of the Mountain, and  
that the Ark rested upon the Mount-  
ain of Ararat. If this Account be  
true, as undoubtedly it is, the allego-  
ry

ens which the Deluge made were only  
 in the Surface and Exterior part of the  
 Earth. And whole plains of Stript  
 which speak of destroying the Earth  
 seem to be understood, only the out-  
 ward Coat or Superficies and the whole  
 Mineral part of it. And indeed it was  
 the Surface of the Earth altogether  
 destroy'd, as appears by the Deluge  
 bringing of a whole Year in her Month  
 pluck'd off; and by all Living Crea-  
 tures in the Ark, being turn'd to Grass  
 and to Life for themselves in the Se-  
 venth Month after the Deluge com-  
 menced, which might be in the begin-  
 ning of our March or broken up

The Alterations, which the Deluge  
 made upon the Earth, being only in  
 the Exterior part of it, I shall the so-  
 lace of such a variety of remarkable and  
 Obvious, and AMirrors in the Mountains and  
 upon the Mountains as in the Valleys.

The uppermost Strata upon the Tops  
 of Mountains were broken up and  
 wind'd down to the skirts of them,  
 and there was lying upon their in-  
 land sides in great confusion, with false  
 and counter Dibs and Rises, like those  
 Flags and Boards of Ice, thrown out of  
 the Water upon the breach of a Storm.

The Al-  
 terations  
 which the  
 Deluge  
 made upon  
 the Earth.

The

2.

The joints of the Mountains consist-  
ing of Rag Ruff and Chiver, and not  
being bound together with strong Gills  
of Seond, were broken, as we have  
observ'd already.

3.

The Courses and Channels of Rivers  
were chang'd, which caus'd all these  
pleasant Gills and Dales with their Rap-  
id River running through the midst  
of them.

4.

The whirling about of the Water  
caus'd all those Hills or lesser Moun-  
tains, whose consistencies are only Sandy  
Gravel, or broken Strata of Stone  
&c.

5.

The Deluge rooted up all the greater  
Trees, some of which we find bury'd  
and embalm'd in great Mosses, as well  
upon the Mountains as in the Valleys.

6.

The Surface of the Plains and Val-  
leys was fertiliz'd by the Deluge, by  
leaving a prolifick Silt and feculent  
Mud upon it.

7.

These Alterations were not caus'd  
by the rising, but the decreasing Wa-

ters; for whilst the Waters were arising, the Aerial as well as the Subterranean Damp continu'd, and the Sublunary Course of Nature was Stagnated; but as soon as God caus'd a Wind to pass over the Earth, the Damp broke, and the Waters were put into a Most violent Perturbation and Commotion; which was the only cause of all those Alterations and Devastations.

The time  
when these  
alterations  
were  
made.

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L I F E.

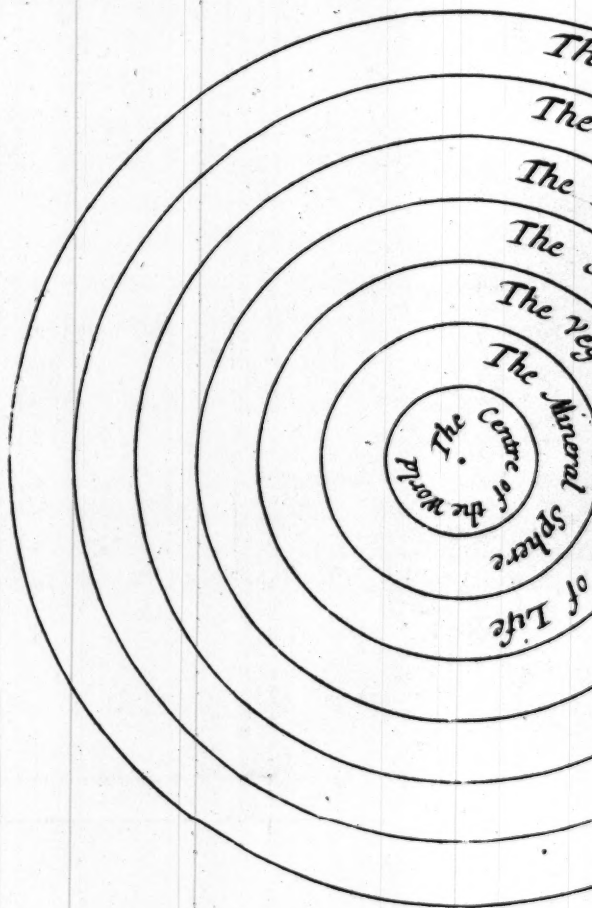
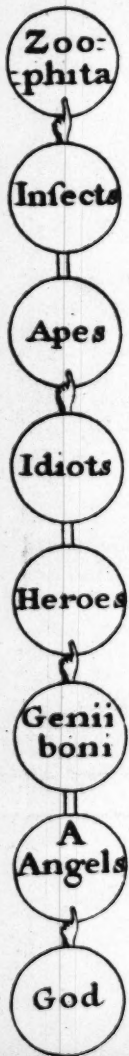
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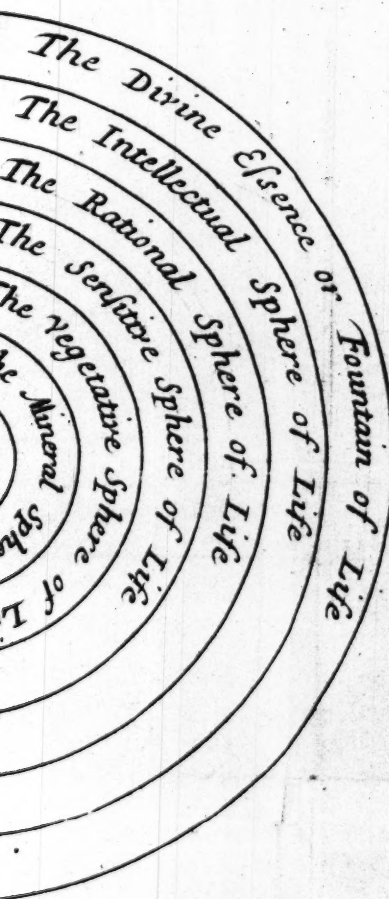
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*A Scheme wherein the several degrees & C*

*Animalia =  
Intermedia.*



& Concatenations of Life are explained



As the highest degree of Vegetation in the Zoophyta makes a near Approach to the lowest degree of Sensation in the Insects. So The highest degree of Sensation in Apes &c. makes a near Approach to the lowest degree of Rationality in Idiots &c.

As the Highest degree of Rationality in the Hero<sup>s</sup>. and Spiritualiz'd Rationals makes a near Approach to the Boni Genii or lowest order of Angels. So the highest degree of Intellectuality in the Angelick Nature, makes a near Approach to the Divine Essence.

*A Scheme wherein the several degrees & C*

*Animalia =  
Intermedia.*

Zoo-  
phita

Insects

Apes

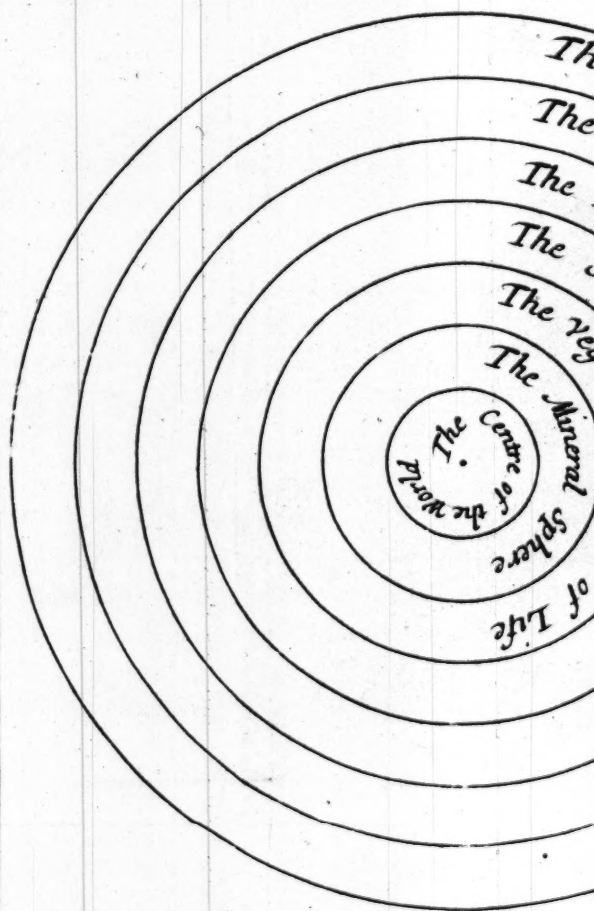
Idiots

Heroes

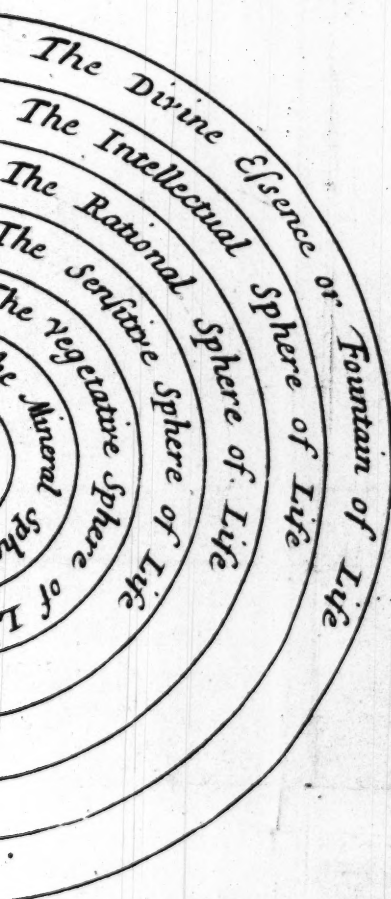
Genii  
boni

A  
Angels

God



# & Concatenations of Life are explained

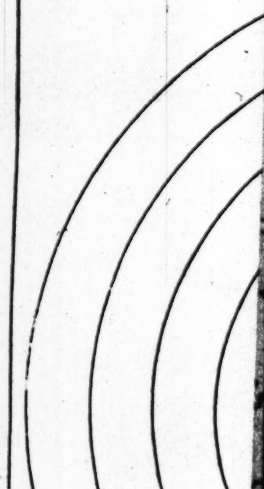


As the highest degree of Vegetation in the Zoophyta makes a near Approach to the lowest degree of Sensation in the Insects. So The highest degree of Sensation in Apes &c. makes a near Approach to the lowest degree of Rationality in Idiots &c.

As the Highest degree of Rationality in the Hero<sup>s</sup>. and Spiritualiz'd Rationals makes a near Approach to the Boni Genii or lowest order of Angels. So the highest degree of Intellectuality in the Angelick Nature, makes a near Approach to the Divine Essence.

*A Scheme wherein the ser*

*Animalia =  
Intermedia.*





The Plastick Spirit in this World of Matter, is a Subtle Saline Volatile which [whilst Matter was in a Fluid Substance] diffus'd it self through all the *Lax Strata* and consistencies of it.

And as that Acid and Saline Humour in the Stomachs of Animals, together with the Vital Flame, by several degrees of Concoction and Depuration separates the more Pure and Spirituous parts of the Nourishment from the Coarser and more Extraneous parts of it, or as that Acid and Saline Humour separates and coagulates the more Pure, Spirituous and Oily parts of the Milk from the Watery and more Terreous; so this Subtle and Acid Volatile, together with that Subterranean Flame [which delicately heats and enlivening the Matter, not only through all the finer Veins Branches and Ramifications of the Earth, but also pervades the smallest Pores of the Densest Matter] did separate, collect and coagulate the most Simple, Pure and Homogeneous parts of Matter, from the Coarser parts of it, and as the Mass of Fluid and Water Matter, receives degrees of Condensation, these purer and more subtil Cal Coagulations were concreted in those

those Solids as well as *Exter* *Str* *as* *here*  
in we find them,

And the Magnitude and Figure of  
these concreted Coagulations, corres-  
ponds with those Moulds of *Crasser*  
Matter from whence they were *Exter*  
ded, and wherein they are *cond*  
and compress'd. These we find lodg'd  
either in the

*Exterior* } *Parts of the Earth,*  
or }  
*Interior* }

Those concreted Coagulations which  
we meet with in the *Outer* *Coat*, or  
grand Cover of the Earth, are of an  
irregular Figure; and they are lodg'd  
in that part in disorder and confu-  
sion.

And these are either the common Pe-  
bles, which are of a

*Terrae* }  
*Solidae* } *Quality;*  
or }  
*Pinguis* }

They are common Flints, *Pyrites* and  
Marcha-

**Marbafines of a Pneumatical and Fiery Quality:**

Or, They are Agates, Onyxes, Jasper, Corneliens, &c. Of a Mercurial and Waterish Quality, which are more or less Transparent.

This Outer Coat or Surface of the Earth consisting of Sand, Gravel, Clay, Bituminous Peat-Earth, and other kinds of Matter of an Heterogeneous Nature, affords the greatest variety of these Homogeneous Concretions.

And these are all of the same Nature and Quality with that Courfe and Crasser Matter from which they were Extracted and Coagulated.

Those more Simple and Homogeneous Concretions which we meet with lodged in the Interior Strata of Solid Matter, which are of an Irregular Figure, are Either of a

*Liquifiable*  
or  
*Calcifiable* } *Quality.*

Those that are not of a Liquifiable Nature, are those which the Miners call the *Marble of Stone.*

For as the Spirit of Nature [at the first setting of Matter] reduc'd all the Constituent parts of the Earth to several Classes; and every Class of Matter leading to some Mine or Mineral; so every Bed or Layer of Stone or Metal has its proper Kernels, by which the ingenious Miner may be directed what Mine or Mineral they lead to; whether to Coal, Rudle, Iron, Stone, Lead or other Metallick Ores; and these coagulated Concretions, are commonly lodg'd in the middle of such solid *Strata*.

Those Homogeneous and more Pneumatical Concretions of an irregular Figure, which are of a Liquefiable Quality, are the several Kinds of Metallick Ores, and these are lodg'd in those Lakes, Veins, Riders, and Springs, which cross-cut and divide those solid *Strata* of a Hot Quality, and the highest degree of Concoction.

The Male Parent of all these is Sulphur, which being either White or Yellow gives the Tincture or Colour, to all Metals.

The Female Parent is Quick-silver, which is the cause of their Elasticity, Flexibility, and Ductility.

H 2 All

All Solid Bodies consist of two several Natures, Tangible and Pneumatical; the Pneumatical Substance, is the Native Spirit of the Body, which distinguishes the several Kinds of them. I define therefore all Metallick Ores to be the more Simple Homogeneous Capsules of such Stones and Gills as are of a Hot Quality, and the highest degree of Concoction, coagulated and concreted in those Rakes, Veins, &c. which cross cut and divide those Gills.

The more Homogeneous that Metals are, the less of Dross they have in them: The more of this Native Spirit they have in the Tangible parts, they are the more Liquifiable, Flexible and Ductile; for the cause of Liquification is the Detention of the Spirits which play within the Body and open it; so that the greater plenty of Spirits any Tangible Matter has in it, it's the more Flexible, and therefore when the Tangible parts are Jejune of Spirits, or easily Emit them, they are Fragile, and will not easily Liquify.

When the Tangible parts of Matter are Ductile or Tensile, it's occasion'd by the Appetite which the Native Spirits have to Union, and Averseness to Discontinue.

*Secondly,*

Secondly, That the Metallick Ores are the Homogeneous and Pneumatical Corpuscles of Stones and Cills of a Hot Quality, and the like, coagulated and concentered by the Plastick Spirit of Matter, is evident from the Experience of Mineralists, who find the greatest plenty of Ore, in the Veins of such Cills as are of the highest degree of Induration and Concoction; for where the Cills are weak and soft, and have not receiv'd a right degree of Heat and Temper, their Veins are only fill'd with Sparr, Soyl, Clay or Vein-stone, like unripe Nuts whose soft and weak Shells are only fill'd with a Milky Pabulum, having little of Kernel in them.

Again, in the Third place, that Ores are the Pneumatical Corpuscles of Sulphur and Quick-silver coagulated and concentered into Clods and Nodes, and lodg'd in the Veins, will be apparent to those who will take the pains to observe, that the more Rich any Vein is of Ore, the less Spangled with Sulphur, and Quick-silver are those Cills and Metals they cross cut and divide; and so on the contrary, the more spangl'd the Stones are, the less Ore in the Vein.

And the Reason why those Metallick Spangles are collected, coagulated and concreted in those Rakes and Veins, because they lay most open and ready to receive them; and this is the reason too, why we meet with float Ore lying in flat Beds in those upper Caves which lye open:

These being Ebullitions or Overflowings of Vein Ore.

As that Hypothesis of the Theorist wherein he conceits, that there was no Metallick Ores or Minerals in the Antediluvian Earth, contradicts the Account which *Moses* gives of *Tubal-Cain* who was, as he tells us, an Instructor of every Artificer in Brass and Iron. This *Tubal-Cain* living before the Deluge. So *Dr. Woodward's* Hypothesis that the Metallick and Mineral Matter, which is now found in the Perpendicular Intervals of the *Strata*, was all of it Originally, and at the time of the Deluge lodg'd in the Bodies of the *Strata*, being interspers'd or scatter'd in single Corpuscles in the Sand or other Matter, whereof the *Strata* mainly consisted, seems inconsistent with Reason and his own Notions of Specifick Gravity. For,

Gen. 4.  
Verse 22.

Part the  
4th. Page  
188.

First,

First, It cannot be easily imagin'd by what Art or Chymistry the Metallick or Mineral Matter, which interspers'd and scatter'd in single Corpuscles in the Strata of Solid Stone, [especially the Corpuscles being smaller than those of the smallest Sand] cou'd be separated and made fit for use.

Again, if the Mass of Fluid Matter, after the Deluge was over, did resettle according to the Rules of Specifick Gravity, the heaviest subsiding the lowest [as the Dr. asserts] why did not these small Grains of ponderous Ore subside the lowest, being heavier than the Corpuscles of those Strata wherein they were lodg'd?

And to assert that they were born up by the Waters of the Abyss rising up towards the Surface [as the Dr. supposeth] is as inconsistent with Gravitation and Levity, as for Feathers to sink and Lead to swim.

These Hypotheses being inconsistent both with Scripture, and Reason, we shall take it for granted, that all these coagulated Concretions of Metallick Ores, were by the Plastick Spirit in Matter lodg'd in the Veins of the several Strata, lying most open, and being

most ready to receive them: And the  
 the State of the Antediluvian Earth  
 not differ as to its Constituent  
 from this Postdiluvian Earth.

Having given an Account of the  
 original Natures, and Causes of  
 concentered Coagulations, as are of  
 Irregular Figure; I proceed to Describe  
 the Natures and Causes of those of  
 more Regular Form.

And these are the Kernels or  
 heads which we meet with in  
 Metals or Stone Metals, which  
 either of a Saline or Pinguid Quality,  
 and consisting of the smallest Grains,  
 way to the Plastick Spirit to Form  
 them into more Regular Shapes and  
 Figures; and these are either Globular,  
 Oval, Triangular, Quadrangular, &c.  
 as the Matter coagulated had a Natural  
 Tendency to such a Form or Figure;  
 and they lie in these Beds of Metals  
 either in Layers, or in disorder and con-  
 fusion.

Besides these Irregular and Regular  
 Concretions; there are others of a  
 more Uniform Shape and Figure; and  
 these may most properly bear the name  
 of Form'd Stones.

They

They are found lodg'd either in Beds of Pinguid and Luxuriant Soil, or in such Beds of Stone, Chalk, Sand, Gravel and Earths as are of a Saline Quality.

Those we meet with lodg'd in Beds of Pinguid and Luxuriant Soil, have the forms and shapes of Worms, Serpents, Snails and other Terrene Insects, which perhaps cou'd never come within the compass of our Observation.

Those we meet with in the Solid Strata of Stones, Chalk, Sand, Gravel and Earth of a Saline Quality, have the Forms of Cockles, Mussels, Oysters, and other Marine Insects, which probably Mankind has never yet been acquainted with; and notwithstanding that these Shells have the Forms of those Marine Insects they represent, yet they never were the spoils of Marine Bodies; But form'd in those Stones and Earths, where we find them lodg'd: And it seems most probable that they receiv'd these Forms and Shapes at the Creation of this Material Globe, when Matter was in a Fluid and Waterish Mass; and when there was a commixture of Light and Darkness, of the Plastick and Vivisick Powers; for then the Vivisick

*Fabius Columna, Dr. Hook, Scam, Scylla, Buccina, Ray, and many others.*

sick Spirit of Nature disseminated the Specifick Forms of those Animals of the lowest degree of Life in those watery Funds and Promptuaries of Matter in which they were Form'd, and increased into that Shape and Figure we now find them in.

And if God Almighty had not [by dividing the Light from Darkness, the Vivifick from the Plastick Power, and by Consolidating the Exterior Strata of Matter] *Cursed the Earth*, these Terrene and Marine Insects which we find petresc'd and entomb'd in Marble, Limestone and Chalk, or bury'd in Beds of Sand, Gravel or Earth, might have increas'd to higher degrees of Perfection, as well as those Subterraneous Toads, Frogs, Asks and Clocks, which we meet with in the Cavities and joints of such Stones as have lost their Natural Feeders.

But of these the following Chapters will give a more full Account.

CHAP.

## C H A P. II.

*Of the Grand Cover of the Earth;  
the Sympathetical Union of the  
Plastick and Vitrifick Spirit; and  
the Production of Vegetables, the  
first and lowest Degree of Life.*

**T**HE Outer Cover of the more so-  
lid parts of the Earth, which we  
call the Surface and Fertile Soil, being  
[as we have observ'd] the [Universal  
Fund or Promptuary, or the Common  
Matrix, wherein was disseminated the  
Specifick Forms of the lowest Degree  
of Life and Vegetation, whilst others  
of a higher Degree Dan'd about it,  
like Atoms in a Morning Sun's Beam.

It will be necessary in the first place  
to give a fuller Description of the Na-  
tures and Qualities of it, and to shew  
by what Degrees of Heat and Vital  
Incubations it was Modified and pre-  
par'd to answer that Imperious Word,  
*Let the Earth bring forth.*

When the Waters were divided and  
the Sea drawn down to its proper  
Chan-

Channel, they left behind them a  
 culent Mud and Sedement, which  
 ing like to a universal Quag, of a  
 and Waterish Substance, consisting  
 the several Kinds of Matter of a  
 heterogeneous Nature, and furnished  
 with great plenty of Mineral Spirits  
 all Qualities.

These Mineral Spirits, by a Natural  
 Motion and Tendency rising up to the  
 Surface, as we observe Cream rise  
 up to the top of Milk, or as Oil rises  
 above Water; the warm In-  
 fluence of the Ethereal Flame moving  
 on it, Thickned these Mineral Spirits  
 into a Liquid Gelly, or a Plagid  
 Unctious Slime.

And this we call the naked Skin  
 the Earth or Fertile Soil.

This Skin or Fertile Soil, before it  
 got any Coat or Cover upon it, was  
 not only Tinctur'd and Colour'd with  
 all those waterish Colours of Green,  
 Red, Yellow, &c. but also was  
 red and speckl'd with great variety of  
 other Colours, occasion'd by a  
 mixture of these Mineral Spirits.

And these gave not only the Tinctures  
 and Colours to the common and  
 waterish Herbs, as Grass, Plants and  
 Flowers

Flowers, but gave also the different Complexions to Birds, Beasts and Men.

And as the several Colours and Complexions were occasion'd by the mixture and temperament of the Mineral Spirits, so were their different Natures and qualities; for a cunning Chymist will Extract out of Herbs and Plants the several Kinds of Mineral Spirits, as well as out of the Mineral it self.

The Virgin Matter being thus Modified and prepar'd by the warm Influence and Enlivening Vegetations of the Aethereal Flame, and its naked Skin Adorn'd and Beautify'd with her great variety of Natural Paints: Those Seminal Forms or Plastick Souls which were disseminated in her warm and moist Womb, and Sympathetically united to their belov'd Matter, began to exert their Plastick Powers, and put forth spongy Strings and Roots; not only to fasten them to the Earth, but to suck in such Juices as were most proper for their Food and Nourishment, which by their Seminal Vertues being digested into the Substance of a Plant, Herb or Tree, of such an Order, Figure and Temperament, it became

came an Individual of that numerous Species of Vegetables; which began first to peep out of the Earth, as Corn out of the Furrows; and afterwards gradually increas'd to the highest Degree of Perfection and Maturity in Nature was capable of.

Thus the naked Skin of the Earth was cover'd with a Coat or Green Livery, Beautifi'd and Adorn'd with Flowers of several kinds of Colours, and as the Passive Matter increas'd in Degrees of Heat and Modification, it produc'd Vegetables of higher Degree of Life and Perfection, as all kinds of Trees, from the lowest Shrub to the tallest Cedar or most robust Oak.

That these Productions were not brought forth all at once; but gradually as the Passive Matter receiv'd higher Degrees of Heat and Modification, is apparent from our observing of those Annual Productions which every Season bringeth forth.

For there are some Vegetables of a Cold and Waterish Quality, whose Natural Spirits are more Fine, Light and Active, which require only a smaller Degree of Heat to raise them, and these are the Productions of those Early Months

Months, *January*, *February* and *March*: And these come to their Perfection and Maturity before *April* and *May*, which present us with an other Crop and order of Vegetables: and for this same reason, *June*, *July* and *August* go further, and presents us still with different shows of Plants, Herbs and Flowers: And thus as the Sun increaseth in Heat, and the passive Matter in degrees of Modification, we are presented with higher and more noble Productions.

The Seminal Forms of Vegetables, being now united to their material Vehicles, and being grown up to their several Degrees of Perfection and Maturity, they retain'd Seed in themselves, and did Propagate their several Kinds by scattering of their ripe Seed upon the Fertile Soil, which like the warm and moist Womb of a fruitful Mother, dissolves them first into a Liquid Jelly, and then divides their parts into their several uses.

That the Seminal Forms of Vegetables were Originally disseminated in the Earth as in an Universal Fund or Promptuary, will be yet further evident by those Ocular Observations which  
has

has been frequently made of Productions without Seed: for take some quantity of Earth digg'd several Fathoms under Ground, and expose it to the Sun and Rain, and it will Spontaneously without any Seed bring forth common Grass and several Herbs and Plants.

Again, we observe that particular Soils will produce, without Propagation by Seed, Herbs and Plants peculiar to that kind of Soil and Earth, as Pavements do Naturally produce Knot-Grass, &c.

If it be object'd, that the smaller Seeds are disseminated over all by the Winds, and the greater Seeds scatter'd by Birds that feed upon them.

I answer that its commonly observ'd, when Earth is brought out of the *Indies* or other Remote Countries for Ballast to Ships, and cast forth upon some Ground in *Italy* or other Countries at a great distance, it will put forth Foreign Herbs to us unknown: And it cannot be imagin'd that the Winds shou'd blow the Seeds of these Plants from the *Indies*, or that the Birds shou'd cross the Seas and scatter them at so great a distance.

To

To these I might farther add those try'd Experiments of Transmutation, Transmigration, and Degeneration of Herbs and Plants.

Having describ'd the Original of Vegetables the first and lowest Degree of Life, and shewn that tho' the manner of their Propagation be now by Seed; yet when Seed is wanting, the Fertile Soil will bring forth common Grass and other Plants in the Natural way by a Spontaneous Generation: Thus the Evening and the Morning, or the Sympathetical union of the Active Form and Passive Matter produc'd the first and lowest Degree of Life, which made the Third Production.

Creation of the Second Cause made the Fourth Production.

THE EARTH WAS NOW GAY, and  
Tint with a new Green Live-  
ry of Grass, Adorn'd with Painted  
flowers, and pleasant Copices of  
Thickets of Young Trees; the Pe-  
rils of the World were now Gold and Wa-  
ter. CHAP. I.

## CHAP. III.

Of reducing the Confus'd Mass of  
 Light or the *Aetherial Plane* into  
 a Body, which made the Sun;  
 reducing those higher Foggs and wa-  
 terish Mists into a Body, which  
 made the Moon; how by clearing  
 of the *Superlunary Firmament*  
 or the *Planetary Spheres*, the Stars  
 appear'd: And what the Sun,  
 Moon and Stars contribute towards  
 the Production of Sensitive or Lo-  
 comotive Animals, and why the  
 Creation of these Second Causes  
 made the Fourth Production.

**T**HO' the Earth was now Gay and  
 Trim with a new Green Live-  
 ry of Grass, Adorn'd with Painted  
 Flowers, and pleasant Copices or  
 Thickets of Young Trees; the Pas-  
 sive Matter was yet too Cold and Wa-  
 terish to draw down out of the Se-  
 cond Degree of Life any of the Sensitive

cive Forms to Adorn and Inform  
it. The Almighty Power did there-  
fore contract this dilated Aethereal  
Flame of Light into a Body, which  
Moses calls the Sun, that those Enliven-  
ing Heats and Vital Incubations which  
flow from it, might be more Strong  
and Vigorous, and Penetrate deeper  
into the Cold Matres.

And God plac'd this Celestial Fire  
at such a convenient distance from the  
Earth, that it might neither be too  
much scorched by being too near to,  
nor frozen by being at too great a dis-  
tance from it, but that it might re-  
ceive such a temperate Heat from it,  
as to cherish its Seminal Virtues, and  
draw up its Juices into them, and  
thereby Ripen its Natural Fruits. <sup>Let</sup>  
God gave to the Earth also a Di-  
urnal Motion, thereby a just and regular  
turning about upon its own Centre, it  
might have the benefit of Day and  
Night every Four and twenty Hours, so  
that no part of the Earth might be too  
much heated by the Sun's presence upon  
it, or too long benighted by his absence  
from it, because as one side is Warm'd  
and Cherish'd by its Rays, it withdraws  
and turns to its other side, and so

by this just and regular turning about of the Earth, and an equal distribution of Day and Night, the active Animals get leave to rest, the over-heated do to cool, and the gasping Earth to recover its fainting Virtues, which continu'd Day wou'd soon Exhaust and Extinguish.

God gave also the Sun an Annual Motion, and has directed it into this commodious Course, that it shew forth its Enlivening Light, Heat and Influence over all the parts of the Earth, and by turns, gives all Countries their Yearly Seasons.

And this gradual Increase and Decrease of Heat, answers all the Ends of Nature, both in the Vegetive and Animal World much better than the constant Temperature and Equality of Heat, which the Theorist supposeth to have been in the Antediluvian Earth.

After the Creation of the Sun, God reduc'd all those vast Bogs and wastish Mists that rag'd about in the Planetary Spheres into a Body, which *Moses* calls the Moon, and he design'd it [as a Reverend and Learn'd Divine of our own has observ'd] to be for a Vicious Light to the Sun, to supply

hablence, and perform his Office in the lower World.

He plac'd the Moon in the lowest of the Coelestial Spheres, at such a convenient distance from the Earth, that the warm Influence of the Sun being reflected from it, might carry down with it some of its Coelestial Moisture. He gave also to the Moon so commodious a Motion, which it performs in every 28 or 29 Days, that when the Sun is Southward it moves Northward, and when the Sun moves Northward it's Motion is Southward, by which Motion the Cold and Darkness of the long Winter Nights are moderated, and these remote Regions under the Poles comforted with the Sun's Influence at Second-hand, when they want it at the First.

Thus by reducing of those waterish Fogs into the Body of the Moon, the upper Firmament or the Planetary Spheres were clear'd, and the Planets, with the rest of the Stars Created in the Morning of the World, began to appear, and to send down their Essential and Invisible Influences upon this Globe, which were obstructed and interrupted by the Interposition of these waterish Mists.

And the Creation of the Sun and Moon and the Clearing of the Planetary Spheres God made use of as instrumental, or necessary Second Cause toward the Production of the Second Degree of Life, and therefore that made the Fourth Production.

#### CHAP. IV.

*Of the Production of the Second Degree of Life, and first of our Animals, as Fish and various Insects.*

**H**AVING already observ'd, that whilst the Earth was a Fluid and Waterish Mass, and there was a mixture of Light and Darkness, the Plastick and Vivifick Spirits; the Specifick Forms of Vegetation, and the lowest Forms of Animals were disseminated in the Exterior Strata of the waterish Mass; and if God had not Cur'd the Earth, by dividing Light from Darkness, the Material and Formel Principles of Life, the Luminous

Matter wou'd have wem'd forth such numbers of Animal Productions, that the Surface of the Earth and Waters wou'd not have maintain'd them.

This Hypothesis is grounded not only upon the form'd Stones we meet with lodg'd in the Interior Strata of the Earth [which having the shapes and representations of Terrene and Marine Insects] cou'd proceed from no other Original than a Plastick Spirit; but also upon those Subterranean Animals, as Toads, Frogs, Asks and Clocks, which we sometimes meet with inclos'd in the Cavities and Hollows of Stone, as well as in their dry Joints. I have found a large Toad six Yards under Ground, inclos'd in the very middle of a hard Stone, where the Joint that led to it was so straight, that it wou'd not receive the thinnest Knife: so likewise great numbers of Asks, Clocks and Beetles in the dry Joints of Stones, which cou'd have no other generation, but what was from a Plastick Spirit modifying a Subterranean Vapour collected into that Cavity or dry Joint, the Vivifick Flame kindl'd a Spark of Life in them, which [by sucking in such Subterranean Vapours, as abounded in the Joints of these dry

Stones, which had lost their Natural Feeders] were increas'd to that we found them in; no doubt but the *Stamina Vita* of these Subterranean Animals are preserv'd by continual Sleeping, and the Air they breathe is pure Subterranean, like Embrios in the Womb, which live by the Respiration of their Mothers. And it may seem very probable that these under-ground Animals have liv'd in these Joints and Cavities ever since the Deluge, and perhaps long before; for as nothing preserves the Vital Flame more than Sleep, so nothing wastes and spends it more than Action.

To these I might add the Production of Eels, Worms, Marine and Watery Insects, as the *Urtica Marina*, &c. which being *Zoophyta* or Plant Animals, and not Locomotive, cou'd have no other Production, than what was merely Equivocal or *epigenetic*, and from Matter modifi'd and prepar'd for receiving of the Vital Spirit.

Besides these Invisible Productions, I shall add one more, visible and apparent.

Take a strong Horse-hay, and put it into the Water warm'd by the Influence of

of the Sun [especially in *May* or *June*]  
and within some few Hours it will take  
Life, move at both Ends, and in a  
short time, its probable that it might be-  
come one of those several kinds of Eels  
we meet with in the Waters.

Notwithstanding that all these Pro-  
ductions had their first Original from  
such Matter as was most proper and  
capable to be modified by the Plastick  
Spirit of Nature; yet being produc'd,  
they sometimes propagate their several  
Kinds by univocal Generation, these  
Marine Insects which are not Locomo-  
tive, being only excepted.

From these Preliminary Instances,  
and a great many more Ocular Obser-  
vations which might easily be produc'd,  
I conclude, that as the several Forms of  
Vegetables; were disseminated in the  
upper Covers of the Earth; so were the  
Specifick Forms of several kinds of Fish  
[as well those which the Naturalists call  
*Pelagicæ*, as those they call *Littorales*]  
disseminated in the Waters, or Subma-  
rine and fresh-water Quicklands; and  
as the Water receiv'd higher Degrees  
of Modification, they produc'd Fish  
of a higher Degree of Life, in obedience  
to that Command laid upon them, *Let  
the Waters bring forth abundantly.* The

The Second Cause which concurr'd in the Production of these Waterish Animals, were,

*First*, the Coelestial Influences.

*Secondly*, The Water which being Modified by the Plastick Spirit and the Coelestial Influences, became waterish Vehicles, or Bodies for their Specific Forms to act in.

*Thirdly*, The Submarine and Waterish Quick-sands in which their Eggs were Generated.

*Fourthly*, The Subterranean Heat, which abounding most in these Submarine Quick-sands or waterish Nests, did Hatch these Eggs into Life.

*Fifthly*, An Innate Power in the Plastick Form, which discriminated their Kinds.

The Original Production of all kinds of Fish, being from their Invisible and Vital Forms disseminated in Waterish Quick-sands, as soon as they came to Perfection and Maturity, they retain'd Seed in themselves, by which they Propagated their own Kinds. The time of their Propagation is with us about *Septembers*, for then being grown strong and lusty with their *Summer Feeding*, and the Influence of the Moon and the rest

rest of the *Ethereal Bodies*, being then more strong and powerful upon the Waters. Again, about that time the Subterranean Heat rises towards the Surface of the Earth, and breaks out in Springs and Quick-sands, which is the reason, why about that time the Fresh-water Fish draw up to the Spring-heads, and the Sea Fish to the Submarine Quick-sands, wherein they scatter their Eggs.

The manner how they Propagate, is, first by Digging up the Sand where they intend to make their Nests, and then [not by Copulation or Penetration of parts, but playing Cheek for Cheek, and by Sympathetical Touches] the Female whones her Eggs, and the Male his Spawn, which mixing together falls down into these prepar'd Nests which they cover up with Sand, thereby securing it from the Winter Floods.

After this they return to their Winter Holds, leaving their Eggs to be Hatch'd by the Subterranean Heat, which continues in the Springs and Quick-sands until the *April* following; and then the Young Frie, being Hatch'd creep out of their warm Nests and Swim down the Waters in numerous Swarms or Shoals.

After

After the Production of all the subordinate Kinds of Fish, God said of the Created great Whales, by which word *Moses* intimates to us, that all the rest of the waterish Animals were produced by the ordinary Concurrence of Second Causes; but God to shew his Great Power in the Deep Waters as well as upon the Dry Land, did seem to give a Preternatural Assistance to the Production of an Animal of so great a Body; which in the Atlantick Ocean, when they appear to Mariners upon the Waters, appear like little Islands or Mountains; and these are the Leviathans that God made to take their Pastime in the Deep. He made them Lords also over all the Fish, which He gave to them for Meat.

For as every Superior Rank or Species of Terrene Animals Feed upon their Inferior, and Man upon all; so every Superior Species of Fish live upon their Inferior, and so the Whale, being Lord over all the rest, lives upon its Underlings.

Again, since the several Orders of  
 CHAP. VI.  
 Of the Second Genus of Oviparous  
 Animals, (viz.) the Aerial, And  
 First, of Fly Insects, Secondly,  
 of Serpents, Thirdly, of Birds,  
 and why Moles makes the Water-  
 ish and Aerial Animals Con-  
 genital.

As it seems preposterous to Create  
 any Species of Animals before  
 Meat fitable to their Natures to Live  
 upon was provided for them; so it  
 seems most probable and agreeable with  
 the Ends of Nature, that Grass, Plants,  
 Herbs, and the whole Set of Vegeta-  
 bles should be the first Spring and Sum-  
 mers Product. That the Replenishing  
 of the Waters with all Kinds of Fish,  
 the Production of the following Win-  
 ters; and that the next Spring should  
 begin with the Production of Aerial  
 Animals; these Living and Feeding  
 upon the first Products of the Earth and  
 Waters.

Again,

Again, since the several Degrees of Modification of Matter, and the Animal Life increaseth, as the Enlivening Influence of the Sun grows Hotter and more Powerful; it necessarily follows, that the several Kinds of Flying Insects, [being the lowest Degree of Life under this Genus] should be the first Produced; for as soon as the Fertile Soil had receiv'd a degree of Heat from the approaching Sun, the Earth began to revive, the Young Plants began to peep out of their Winter Beds, and the tender Leaves of Trees began to break their Autumn Buds.

The East Wind blowing then Dry, by it's soft and easie Blasts did Condense the Morning and Evening Dews into viscom and clammy Strings, which like Cobwebs hang upon every Thorn and spread themselves upon the Young Grass, till the Sun advancing towards the Meridian, sent down a warm Reflection upon the Earth, and caus'd all these fine and tender Threads to draw together, and fashion themselves into little Nests, in which by a higher Degree of Heat were form'd little Eggs; which by another Degree of Heat took Life, and did Fly about in the open  
Air,

Air, some Feeding upon Dew, others upon Leaves; others upon Corruption in the Air; others were Blood-suckers.

Besides these Generated of Dews, there are infinite numbers of other Kinds of Insects which are Generated of Slime and Corruption; and these are either Daily or Weekly Productions, some of which Transform from one Species to another, as the Silkworm which we call Caterpillars the first Summer, the next Summer will become Butterflies; so God-bates in April and May will Transform into the kind of flies we call Clegs; which are Blood-suckers. And there are still others as the Toads particularly the Kinds, Nature and Number of all these Transformable Insects would be a Task insurmountable. There are also several Kinds of Flying Insects produced, having their Colours, Natures and Qualities from Flowers, Plants, Herbs, Trees, & corrupted Water (and Slime), and their Shapes and Figures from their Plastick Forms, these being the lowest Degree of Life, or small Degree of Heat produced and by

After the Production of the Fly.  
 ing Insects, the Earth will  
 blowing Warm and Dry, and  
 ing Puddles of Scurvy and  
 and Water being drained, and leaving  
 behind a Poisonous Slime, or  
 by the Sun's Influence will form  
 fecund Eggs, which by the  
 of Heat will hatch, and  
 by sucking in and sucking open such  
 Poisonous Matter as they could  
 with suitable to their Nature, they  
 got strength, Feet and Wings, and  
 escape Serpents of several kinds, some  
 Greasiers, as Adders and Snakes, some  
 with Feet, as the Asp and Viper, some  
 with Horns, as the Gophers, some with  
 Wings, as the Basilisk and Dragon, and  
 the like.

Altho that these have all of them  
 Head, Heart, Blood, Nerves, Senses  
 and other parts agreeable with the most  
 perfect Animals; and tho' that some  
 of them be the most Subtile amongst the  
 Irrationals; yet by reason of their dis-  
 parity with Quadrupedes, they are ac-  
 counted

counted amongst the imperfect Animals  
and of a lower Degree of Life.

### *Of the several Kinds of Birds.*

**A**fter this the Cold and Waterish  
Earth, being drain'd and warm'd  
by the increasing Influence of the Sun,  
the Mountains, Heaths, Dale, Valleys,  
Water-lands and the Sea-shore, were  
cover'd with a Luxuriant, Plastick and  
Prolifick Slime, which drew down  
[by way of Sympathy] out of the  
warm Regions of the Air, the Speci-  
fick Forms of Birds or Aerial Animals,  
which being united to this Luxuriant  
and Plastick Slime, there were Form'd  
innumerable numbers of Eggs upon the  
Mountains, Heaths, Valleys, and all  
parts of the Earths Surface; and no  
sooner were these Eggs Form'd, but  
the warm Influence of the Sun, sat on  
Brood upon them until they were  
Hatch'd into little Chickens.

Those Hatch'd upon the Sea-shore  
became Sea-Birds, those by the sides of  
Rivers, feeding upon Fresh-water Fish,  
and those Hatch'd by the sides of Lakes  
and Ponds, became Amphibious Birds,

feeding both upon Fish and Herbs, as Geese, Swans, Ducks, &c. Those Hatch'd upon Mountains and Heaths feeding upon Mountain Vegetables, Heath Birds; those upon the Plains and Valleys became Domesticks, feeding both upon Grass and Corn; and those in the Woods, Singing Birds and Birds of Prey, as the Eagle, and the rest of those Tyrants of the Air.

After this manner were the Aerial Animals produc'd, and the reason why *Moses* makes the Aerial and Watrish Animals Congenial, is,

*First*, The parity of their Production, being both from Eggs.

*Secondly*, The Affinity of that Matter on which they were produc'd, the Air and Water being Transmutable Elements.

*Thirdly*, From the likeness of their Actions and Qualities, the one Kind having Fins by which they Swim in the Water, the other having Wings by which they Fly or Swim in the Air.

As these were the Productions of the first Spring Months (*viz.*) *January*, *February* and *March*; so in these Months they do always Propagate their Kinds by laying of Eggs, every Species according

according to its Kind; some on Mountains, others in Valleys; some by Water-sides, others in the Woods; &c. the warm Wing of the Dam, now supplying the Want of a warm Sun-beam.

For as the Wing Hatcheth them out of their Shells, so it strengthens and nourishes them by Vital Incubations, till their Pinions be able to bear them up to seek their own Food: Thus the Wing is both the Midwife that brings them out, and the Nurse that brings them up.

## CHAP. VI.

### *Of the Terrene, or Viviparous Animals.*

**A**fter the Production of these Animals of a lower Degree of Life, and Perfection, and the Sun was advanc'd higher in his Annual Motion, which Daring down his warm Beams upon the Earth in a more direct Line, they did penetrate deeper into the Cold Matter; and by drawing forth its Fertile Spirit towards the Skin or Surface

of it, they set the Plastick power on working, and modifying the Passive Matter into more noble Forms; which by their Sympathetical Charms draw down the Specifick Forms of the most perfect Animals within the Second Sphere of Life.

For in every little Pit or Hollow of the Earth, which being fill'd with Luxuriant and Prolifick Slime was kindl'd by the Vivifick Vertue of the Seminal Form, a little bubble of Life, which the Plastick power began to shape into the Form or Figure of an Animal.

And thus was the numerous Brood of Quadrupedes, [being Animals of the most perfect Kind] first Conceive'd in the warm and moist womb of Modified Matter, nourish'd by sucking in the Luxuriant and Prolifick Slime; which by their Vital Heat they digested and distributed into the several Parts and Members of their Bodies increasing of them by an equal assimilation of Parts; and as soon as these young Embrios had got strength, they Crawl'd out of their warm Nests of Matter, and began to suck in those Honey Dews, and lick up that sweet Manne which  
laid

laid upon the Grass and Herbs, and this supply'd to them the want of Maternal Milk and Nourishment.

For during the time of these Productions, God neither suffer'd it to Rain upon the Earth, nor the Winds to blow, lest this Infant Brood of Young Animals shou'd have been destroy'd, before the Birds got Wing, or the Beasts Foot and strength to defend themselves against a Storm; but there went up only a Mist from the Earth, which water'd the whole Face of the Ground. And this Mist was only a warm and moist Smother, which arose from the Earth, as we observe it to rise from the Furrows in the Spring Month occasion'd by the Morning Sun Beams; and these Clouds which did swim in the Air, only serv'd for Umbrellas and Parasols to screen those Infant Animals from being scorch'd by the Heat of the Sun, and from drying up their Food and Nourishment.

The Earth being now Stock'd with the several Kinds of Animals, contain'd under the Sensitive Genus, they did Propagate their Kinds by Univocal Generation. For which end Nature and Providence hath form'd several

Vessels or Slime-Pits in every Female, for preserving something Analogous to that Original Slime, which was then the Passive Principle of Generation, and likewise in every Male such Vessels as are most fit and commodious for preserving a Beam or Spark of the Aethereal Flame [which being the material Vehicle, wherein the Specifick Form is preserv'd] kindles the first bubble of Life in the Passive Matter.

And we observe that as soon as Age and Maturity hath fill'd these Seminal Vessels with this Prolifick Slime, and digest'd it into a right Degree of Heat and Temperature, the Females of every Kind or Species of Animals, begin to Prune, Dress and Trim themselves, by which modest way of Courtship, the Male is drawn and Charm'd to within their Sympathetical Spheres: Thus the Evening and the Morning, or the Sympathetical Union of the Active Form and Passive Matter, made the Fifth Production.

**G. H. A. P. VII.**  
*Of the Creation of Man, the Sixth  
 Production.*

**T**HE Earth being now cover'd  
 with the great variety of Spe-  
 cies, contain'd under the Genus of Ve-  
 getation, the Waters replenish'd with all  
 Kinds of Fish, the Mountains, Plains  
 and Valleys Stock'd with Herds and  
 Flocks of all Kinds of Cattle: God did  
 once more Modify the Passive Matter  
 into a more noble and excellent Form,  
 not only capacitated to receive the  
 lower Degrees of the Animal Life; but  
 also fitted with Organs to entertain an  
 Intellectual Soul, which *Moses* tells us  
 God Breath'd into it: It being impossi-  
 ble for Matter, tho' never so curiously  
 Modifi'd by the Plastick Spirit of Na-  
 ture and the joint Concurrence of the  
 Coelestial Influences to draw down by  
 the power of any Material Sympathy a  
 Soul out of the Immaterial and Intel-  
 lectual Spheres of Life to Animate and  
 Enform it.

And this Noble Creature God call'd  
*Man*, being made not only after his  
 own Image, Spiritual and Immortal;  
 but also after his Similitude (*viz.*) En-  
 dow'd with all the Affections and Com-  
 municable Attributes of the Divine  
 Nature, by which he became capable  
 not only of disclosing the Secret Myste-  
 ries of Nature, and of diving into its  
 Deep Philosophy; but also of Know-  
 ing and Adoring his Creator: by which  
 Perogatives of his Birth, and Noble Ex-  
 traction, he became Qualifi'd for be-  
 ing his Creator's Vicegerent upon  
 Earth.

And this Noble Creature God call'd  
 Man, being made not only after his  
 own Image, Spiritual and Immortal;  
 but also after his Similitude (*viz.*) En-  
 dow'd with all the Affections and Com-  
 municable Attributes of the Divine  
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 traction, he became Qualifi'd for be-  
 ing his Creator's Vicegerent upon  
 Earth.

# The Conclusion.

Wherein is shewn the meaning and  
significancy of these Words. And  
God saw every thing that he  
had made, and behold it was  
very good.

**T**Hat God, who is Infinite in Good-  
ness and all Perfections, cannot  
be the Author or Producer of any  
thing, but what is Good and Perfect  
in its Kind, hath been always assum'd  
as a granted Principle, not only by the  
best of Divines, but even the genera-  
lity of *Pagan* Philosophers: Yet *Moses*,  
notwithstanding this, foreseeing that  
this excellent Frame of the World,  
which was design'd on purpose to  
bring all reasonable Creatures to the  
Knowledge and Veneration of their  
Creator, wou'd be perverted to con-  
trary Ends and Effects; and that  
the Production of all the Creatures  
might be ascrib'd wholly to Second  
Causes, or to no Cause at all; but to  
Chance,

Chance and to the casual Motion of Matter, for the prevention of which, he here brings in the Almighty *more Humano* taking an exact View and Survey of the whole Creation, both as to its Structure and Furniture, and giving it his Divine Approbation in these words, *and he saw every thing that he had made, and behold it was very good.*

The Goodness of the Creatures do Principally consist in these Four Particulars.

1. In their Correspondency and Agreement with those Patterns and Ideas preconceiv'd in the Divine Understanding.
2. In their Fitness and Suitableness for those misplaid Ends and Purposes for which they were Created.
3. In their being Good and Perfect in their several Kinds.
4. In the Regular keeping and observing those Rules given them at their Creation.

*First.*

That this Infinite variety of Orders, Shapes and Figures, by which the several Species of Creatures are Characterized and Distinguish'd, are not the Effects of blind Chance or Casual Motion, but the Products of Infinite Pow-

er,

er, Wisdom and Counsel, will be clear and evident, if we carefully observe, that not only their Numbers, Shapes and Figures; but also their whole Contextures and Contemperation of parts, with their Natures and Qualities, have all of them a manifest relation to those several Uses and Operations they perform; and this is so fairly Illustrated and Prov'd by the Ingenious and Learned Mr. Ray, in his Treatise concerning the Wisdom and Providence of God in the Creation of the World; that a further enlargement upon this Argument, wou'd be wholly superfluous.

That all Creatures are Good and Perfect in their Kind, will appear, if we consider that it was most agreeable with the Divine Wisdom, that the whole Scheme and System of Nature, shou'd consist in different Degrees of Perfection and Subordination of Life: And that every Inferior Species shou'd be Concatenated to its Superior by Animals of an Intermediate Nature, *Secondly*

And yet notwithstanding this difference amongst the Creatures in Degrees of Life and Perfection, we cannot but observe, that every Creature even of the lowest Degree of Life is Good and Per-

Perfect in its Kind (*viz.*) without any blemish, defect or flaw; for the meanest Insect, is as perfect an Animal as the Elephant and Whale, and God's Wisdom and Power is as well to be Admir'd in the Paint upon the Butter-fly's Wing, as in the Glorious Body of the Sun.

Again, there is nothing more agreeable with the Divine Wisdom, than that there shou'd be in so great a variety of Creatures, Degrees of Subordination and Perfection, will yet further appear if we consider,

*First.* That these Creatures of a lower Degree of Perfection do by comparison illustrate and commend those of a higher Degree.

*Secondly.* That those Regular Subserviences and Harmonies might make up a Vinyl-Cement whereby the whole Frame and Structure shou'd be United.

*Thirdly.* It was necessary that there shou'd be variety of Natures, and different Degrees of Life, that the Wisdom of the Creator might be the more Display'd, Acknowledg'd and Celebrated, and that his Infinite and Universal Goodness might be more Visible in the supplying and providing for the Wants of

so vast a number of Creatures of so different Natures.

Lastly, That Man being plac'd at so great a distance from the Beatifick Vision [which whilst he continues in this Compounded State, wou'd either have Dazl'd or Confounded his Sight, or Affright'd and Ravish'd his Soul out of his Body] it pleas'd therefore the Divine Wisdom to Create all this great variety of Creatures that he might behold his Creator at Second-hand, when his Bodily Eyes cou'd not bear the sight of Him at the first.

And *Secondly*, That he might exercise and improve his Rational Faculties, and entertain his Heaven-born Soul with Natural as well as Divine Speculations, which in some measure Compensates for the want of a clearer sight of the Divine Vision.

Again, altho' it must be granted that in these different Degrees of Perfection all are not alike Amiable, Lovely and Beneficial to Man; yet those that are the less Beautiful and Lovely set off the Beauty of the rest, as Shadows set off the more lively Colours.

*Thirdly*, That the goodness of the Creature, does consist in its fitness for those

those Ends and Purposes for which it was Created will appear, if we consider that it cannot be easily imagin'd, that God who is Infinite in Wisdom and Goodness, shou'd Create any thing in Vain; but to good Ends, and the best of Purposes.

We therefore in the Nature of Things can discover Infinite agreeableness of this to that, and of one thing to another. And though we cannot thoroughly penetrate and discover the Relation Use and End, of every Thing in Nature, by reason of our Incapacity, occasion'd by the Darkness of that State we live in; yet we have reason from what we can discover, to conclude, That every thing was Created for good Ends and particular Uses:

For, first of all, we do observe that every Inferior Creature was subservient to its Superior: And all the Creatures subservient to Man; altho' our Ignorance in this Dark and Degenerate State, has made us incapable of Understanding their Natures and Uses.

*Secondly* Secondly, We observe that every Element is fitt'd for its Animal, and every Animal for its proper Element.

We observe that every Object is fit- *Thirdly*  
 ted for its Sense, and every Sense to  
 its proper Object.

We observe that Food and Nourish- *Fourthly*  
 ment is provided in Nature's Store-  
 house for every Animal, and every  
 Animal for its proper Food and Nour-  
 ishment.

These being trite and common To-  
 picks, I refer the Reader to those Au-  
 thors who have made it their Business  
 to enlarge upon them: I shall pro-  
 ceed therefore to shew how in the last  
 place, the goodness of the Creatures  
 consist in observing and keeping of  
 those Laws given them at their Creation.

When the Almighty had Created the *Fourthly*  
 World, and Stock'd it with several  
 Ranks and Degrees of Creatures, He  
 gave them Laws to keep, and Rules to  
 walk by: And these we call the regu-  
 lar Course of Nature, from which  
 they never vary unless at their Creator's  
 Command.

These Laws which all the Creatures  
 are govern'd by, are,

1. A Divine Impression; Or,
2. Natural Instinct,
3. External Senses.

A. The Laws and Rules of Natural Reason.

The

The Laws  
of Divine  
Impressi-  
on.

1. The Inanimate Creatures, are go-  
vern'd by a Divine Impressions, for if  
we look up to Heaven, we observe  
how the Sun, Moon and all the Ma-  
terial Globes do perform their Natural  
Motions, from which they have not  
vary'd higher or lower, faster or  
slower, since their first Creation; and  
how they shed forth their Cœlesti-  
al Influences on all things here be-  
low.

2. If we look downward, we may  
observe, how this Terraqueous Globe  
consisting of dull and stupid Matter,  
turnes about its own Centre, and Na-  
rurally, Constantly and Regularly per-  
forms its Diurnal Motion, its cold sides  
thereby receiving the warm Influence  
of the Cœlestial Bodies.

3. We may observe, that those  
weak and groveling Plants (viz.) the  
Hop, Vine and Ivy, are by Nature  
furnish'd with Tendrils or plant Serpents,  
and how by a Natural kind of Instinct  
they seek about for Supporters, and  
having found them, they Clasp about  
them; for all the Plants of this Kind, as  
if they were sensible of their being Ad-  
jective, are always in busie quest for their  
Substantive,

4. We

*Fourthly*, We may observe how the  
 Insects, those Animals of the lowest De-  
 gree of Life, propagate and preserve  
 their Kind by Natural Instinct, which  
 in them supplies the want of higher De-  
 grees of Sense; for with what curiosity  
 do the Bees make their waxen Cells, lay  
 in their Winter Provision, and how obe-  
 dient they are to their Master Bees or  
 Governors? With what wonderful  
 Art does the Spider Spin his Web out  
 of his own Bowels? With what care  
 and industry does the little Ant first  
 make her Store-house in some dry Hill,  
 then seeks about for Winter provisions,  
 and that the Corn and Seed she gathers  
 may not grow nor sprout in her Store-  
 house, she Eats off that end where the  
 seminal Form is lodg'd.

The Laws  
 of natural  
 Instinct.

*Fifthly*, We may observe how all those  
 Winter Sleepers, who when their Sum-  
 mers Provisions are spent, and by their  
 Natural Instinct they foresee the Win-  
 ters Frost approaching, do withdraw  
 into some warm Winter-quarters, where  
 they Live by Sleeping, till the approach-  
 ing Sun invite them out into the Fields.

*Sixthly*, we may observe with what  
 wonderful Art and Curiosity the smal-  
 lest Birds build their Nests of several

L

forms

4.

5.

6.

forms suitable to their Weakness or Strengths: how when their Nests are Built, they lay their Eggs, Hatch them with their Wings, and then Feed them till they get Strength to Fly abroad, and seek their own Meat: we may further observe that all these Creatures that are govern'd by the Laws of Natural Instinct, never varies in their Operations, but walk in the same Roads and pursue the same Methods.

7.

The Laws  
of external  
Sense.

Secondly, We may observe how those Animals that are Govern'd both by Sense and Instinct do Propagate their Kinds, and how they are all provided with Natural Armour for self preservation: We may also observe amongst those Animals of a higher Degree of Sense such instances of Love and Hatred, as are seldom practis'd by the most Passionate Lovers, or the most Malicious Flatters.

I have known and heard of Dogs and other Creatures, that have pin'd away and Dy'd for want of their Masters: And others also that have born such an implacable Antipathy against some particular Persons, as was never to be reconcil'd.

*Eighthly*, and Lastly, I might instance in those excellent Laws of Prudence and Reason, as well as those of the Divine Life, which God imprinted upon the Nature of Man, before they were obliterated and defaced by Sense. 8.

Thus all the Creatures, Man only excepted, continue still under the government of those Laws given them at their first Creation.

This may seem sufficient to Convince the most professed Atheist, who is not resolv'd to offer violence to his Natural Sense as well as Reason, That there is a God, and that the World with all its Furniture, was the Product of the Divine Power, Wisdom and Counsel.

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The End of the Second Part.

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...and I will be  
...in those of the Law  
...and Reason, as well as in the  
...the Divine Law, which God imposed  
...upon the Nature of Man, before they  
...were fallen, and as by some  
...The all the Creatures, Man only  
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The End of the Second Part.

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A  
**DISCOURSE**

Concerning the  
*Terrestrial Paradise,*

Shewing how

**ADAM** was Introduced in-  
to it: The time he continu-  
ed in it; and how He and  
**EVE** Employed that Time.

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# DISCOURSE

Concerning the

Territorial Paradise

Shewing how

ADAM was introduced in-  
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---

# DISCOURSE

Concerning the

*Terrestrial Paradise,*

Shewing how

# A DAM

Was Introduced into it.

**S** Everal Men of great Learning, as well Ancient as Modern, have made most industrious Enquiries, after the place and situation of this Terrestrial Paradise; of which Moses has given us so particular a Description in his Second Chapter of *Genesis*.

And their Opinions about it, being as different and wide, as East and West, Heaven and Earth: We shall therefore

only undertake, to present the Reader with some Conclusions, drawn, as well from the fairest Arguments of probability, as from the *Mosaick* Account of the place,

1. And first we Conclude from the Literal Sense of the Text, that there was such a place upon Earth, as a Local Paradise; and that this place, did as far exceed the rest of the Earth, in Fertility of Soil, and all the Products of Nature, as Gardens of the best Cultivation, exceed the common Fields.

2. We Collect from the Literal Sense, that this Terrestrial Paradise, in respect of *Judea* or *Midian* [where we suppose *Moses* Writ this System of the Creation] was *Eastern*.

3. That in respect of the Surface of the Earth, its particular Situation was misplaced in a Middle between the Tops of the highest Mountains, and the lower Plains and Valleys.

4. That in respect of the Heavens, its Situation was under the *Aequinoctial* Line.

These two last Hypothesis's having no authority from the Sacred Scripture, we shall endeavour to ground them; not only upon the bare Account which

*Travellers* has given of the Fertility of those *Equinoctial* Regions, but also upon such Natural Arguments as cannot [without offering violence to Reason if self] be easily deny'd.

For notwithstanding, that several of the Ancient Writers, were of Opinion that those Countries, under the Torrid Zone, were Uninhabitable, by reason of the Sun's darting down its fiery *Globuli* upon them in down-right Lines: And because they wanted those plentiful and pleasant Showers of Rain, which Fertiliz'd the rest of the Habitable World; yet the Experience of later Travellers hath discover'd to us, first that the want of Rain is repair'd by those great and rich Dews, which the Morning cold Condenseth, and which lying upon the Ground until Ten a Clock, the Sun's Influence upon it, having then exhal'd the more Nitrous and Airy part of it; the Sphere of Rarefaction [which in those Regions falls low, and is always open] Rarifies it into such cool Gales, and Breezes of Wind [which always Blowing from Ten a Clock in the Morning until Three in the Afternoon] so cools and abates the extremity

mity of the Heat; that no Inconveni-  
ence or Distemp'ature is found there.

2.

Again, the Nights [as Sir Walter  
Raleigh has Observ'd in his Travels]  
are so Cool, Fresh and Equal, by rea-  
son of the intire Interposition of the  
Earth; that there is not to be found in  
any part of the Habitable World a bet-  
ter, more wholesome, or equal Tempe-  
rature of Air.

And although there be some Tracts,  
which lye under the Perpendicular  
Mountains where the Air stagnates;  
the fresh Gales and Breezes of Wind  
ever-blowing-them, and some other  
places Sandy, Barren and less Inhabi-  
ted, yet the greatest part of those Re-  
gions [especially the Vales, which ly-  
ing above the Plains and lower Valleys,  
have always their Air Refresh'd and  
Sweeten'd with these fresh Breezes of  
Wind; and are plentifully water'd,  
with Rapid Rivolets arising from the  
Tops and Sides of their Neighbouring  
Mountains.

And these as well as the Plains and  
Valleys, are Beautify'd with abun-  
dance of stately Cedars, and other  
Trees, casting a pleasant Shade, and  
delightful Fragrancy.

They

They are enrich'd too with all sorts of most delicate Fruit-trees, always Green, and bearing the choicest Fruit in their highest Degree of Perfection: Their Boughs and Branches are never wither'd and left naked; for their Sap never creeps under Ground fearing the Winter Frosts.

To these Accounts which we have from Travellers of the greatest Truth and Fidelity; we further add, That as all the flat Strata or Layers of Stones, Metals, and Subterranean Earths, have a Natural Rise toward this middle Girdle of the Earth, and a gradual Declivity towards the two Poles (which all Mineralists, who understand the Structure of the Earth, and the position of the solid Stream willingly agree to) we may thence most reasonably Collect, that these Equinoctial Regions were the first dry Land that appear'd after the Waters began to divide and decrease.

We yet further subjoin, that as this middle Girdle upon the Earth, lies parallel to that middle Circle in the Heavens [we call the Sodiack] through which the Sun performs its Annual Course, we Collect that it, with the ad-

3.

4.

adjoining Regions, received the first and largest Influence of the Sun's Enlivening Vegetation, and consequently were Stored with the first Products of Nature; as well Animals, as Vegetables. So that in all probability, there might be Ripe Fruit in Paradise, before those other Regions towards the Tropicks and Poles were drain'd from the Waters, or receiv'd the Sun's Vegetation according to their Natural Seasons.

5. Again, as these Equinoctial Regions produced all Kinds of Vegetables and Animals in the highest Degree of Perfection their Natures were Capable of: So they did; and do to this Day afford us not only the greatest plenty of the most Precious Stones, but also the most Valuable and Useful Metals, as Gold, Silver, Brasse, Iron, &c. and this is not only evident from the *Mosaic* Account of the Rivers of Paradise; but the Experience of those Merchants, who being tempted by their Value, Trade thither.

6. Once more, as it is most probable, that these Equinoctial Regions were the first dry Land, that they receiv'd the first Enlivening Vegetation of the Sun, and were honour'd with

with the first products of Nature; so it is most agreeable with Reason, that all the Regions upon Earth are more or less Paradisaical, as their Situations are nearer or at a distance from this middle Zone, and that from Paradise they were first Stock'd with the several Products of Nature, and the several Genera of Animals; which began to Propagate their Kinds there, until the Earth was Replenish'd. Altho' its most probable, that they did degenerate from their Original Perfection as their Propagations were at a distance from Paradise.

As from these Arguments we Collect and Conclude, that the Terrestrial Paradise was in respect of the Heavens situated under the Equinoctial Line, so in the last place, we Conclude that its particular Situation was in a middle between the Tops of the highest Mountains and the lowest Valleys. And we ground this Hypothesis upon the Account which Moses gives of the Course and Motion of that River which water'd Paradise; for this River undoubtedly had its Rise from the Top or side of some of the Eastern Mountains, and took its Course first in one Rapid Stream,

Stream, through the midst of the most pleasant Dale, and then by dividing it self into Four lesser Streams, they became the Heads of Four of the greatest, and most noble Rivers in the World, which sliding down through the lower Dales, Plains and Valleys of a great part of *Asia* and *Africa*, at last empty'd themselves into the *Mediterranean* at great distances.

1. The height of its Situation gave it most wholesome, delightful and refreshing Air, together with the most advantageous and grateful Prospect on the rest of the Rising and Growing World.

2. This *Paradisaical* Dale, had all the advantages of a Natural Situation; for first of all, it must be necessarily supposed, that it had its Situation under the Skirts of the highest Mountain in those *Eastern* Countries, which defended it from the Cold Blasts of the Northern Wind, from whose lofty Top did flow that Rapid Mineral Flood which took its Course through the midst of it.

It may be supposed also, that it was encompassed with lesser Hills on all sides excepting the South-east, which

let into it the warm Enlivening Beams  
of the Rising Sun, and which was the on-  
ly passage that gives liberty of Entrance  
into it.

That these Hills were Beautify'd and  
Adorn'd with all Kinds of Trees,  
which might gratify the Senses with  
their fresh and beautiful Colour, always  
Green, and casting a most pleasant  
Shade and delightful Fragrancy, in  
which the Active and Cheerful Birds  
Sung their Morning and Evening An-  
thems.

3.

That these Hills encompassed a large  
and spacious Plain, wherein did Spring up  
and Grow to Perfection all the Species  
of Herbs, Plants and Flowers that are  
to be found in the large Volume of Na-  
tures Inventory.

4.

In the middle of which Nature had  
Planted a most Curious Grove or Or-  
chard, wherein did Grow all Kinds of  
Fruit-Trees bearing the choicest of all  
Fruit, that might either gratify the  
Eye or please the Palate.

The most remarkable Trees in this  
most pleasant Garden, were the Tree of  
Life and the Tree of Knowledge,  
which [being taken in a Literal and  
Natural Sense] had their Names from  
the

the Nature and Quality of the Fruit they Bore.

The former (*viz.*) the Tree of Life Bore a wholesome Fruit, preserving both the growing Sensitive and Rational Life; and that so long as a Body compounded of Matter, consisting of contrary Qualities could last.

The other (*viz.*) the Tree of Knowledge, Bore an unwholesome Fruit of a Poysonous Nature, which destroying the Excellent Frame and Temperament of the Body, made it subject to Diseases and Pains, and last of all to Death and Mortality.

As the former gave us the Experience of Health, Life and Vigour, which Men are seldom sensible of, whilst that happy State continues. So the Fruit of the other gave us the Knowledge and sad Experience of an Unhealthy and Sickly Constitution of Body, and lastly of Death and Mortality; hence it had its Name of the Tree of Knowledge from the dear bought Experience of its Fruit.

This I confess is but a rude Draught of the Terrestrial Paradise; yet I presume to offer it as a probable Hypothesis, and I doubt not, [but with Men of bet-

better Judgment, it may pass for such  
and serve to Illustrate their Notion of  
some elevated and exalted Nature.

Having given a short and plain  
Description of the Terrestrial Pa-  
radise according to the Jewish and  
Natural Notion of it, we shall pro-  
ceed to give a probable Account how  
Adam was introduced into it, how long  
He might continue in it, and how He  
and his Consort were employed dur-  
ing that time, much being said concerning

Adam the Royal Prince of the  
kind, being formed into his Body and  
Organical parts of the same Mould with  
the rest of the Terrestrial Animals, and  
having a Rational and Intellectual Soul  
infused into him, as soon as his weak  
Members got Strength to Walk abroad  
from the place of his Nativity, and to  
take a View of those large Dominions  
his Bountiful Creator design'd to put  
under his Government, as The first place  
he had in Prospect was this Terrestrial  
Paradise, toward which his Curiosity  
led him, but not finding an Entrance  
into it, as God sent an Angel to be his  
Guide, and to introduce him into the  
Possession, as he came to all the Peti-  
cles of this World, and the Emblemati-

such Assurance of the Glories of the  
Celestial Paradise

And so soon as this Royal Par-  
adise enter'd this Pleasant and Delight-  
ful Garden, bus all the Birds and Beasts  
in Paradise [being surpris'd at the  
sight of] a Creature of a Shape and  
Form quite different from any of them,  
and of so Divine and Majestick a Con-  
sistence, I came towards him, Puck  
and the other Fairies, and wonder at him. And  
Pamick Fear having seiz'd them, they  
became all his Vassals.

He will not undertake to determine the  
time that he spent in Walk-  
ing round the Woods and Plains of Pa-  
radise, while he took a View of all the  
Creatures, distinguish'd their Tribes,  
and gave Names and Offices to them,  
according to their several Natures and  
Qualities. I presume that it can hardly  
be imagin'd that one Day could be suffi-  
cient for so great a Task.

Isidore's Ambition was to exercise  
and improve his Rational Faculties, by  
Enquiring into the Natures and Quali-  
ties of the Sensitive Animals; no doubt  
but Eve [being as his desirous to im-  
prove her Wisdom and Knowledge,  
than her Master did] did spend that

time during his absence, not only in gratifying her External Senses, with the fragrant Smell of the fair Flowers of Paradise, and Tasting its sweet Fruit; but in making Enquiries into the Natures and Kinds of Fruits and Samples, in distinguishing their several Sorts, and giving Names to them according to their Natures.

And certainly it was not her Ambition to be like God in his Divine Perfection, as Wisdom and Knowledge, made her Forfeit not only the fair Fields and pleasant Walks of Paradise, but Life and Immortality; but her taking a course and method to that End, contrary to the express Command of her Creator.

And although it be most probable that a Natural Serpent, having a speckled Skin, Beautify'd and Adorn'd with all the variety of Natural Paint, in the most fresh and lively Colours, was her Officious Favorite, and presented to her Royal Hand this Beautiful and Lovely Fruit;

Yet doubtless it was her own Natural Serpent, or Concupiscence, did frame and suggest to her a Discourse to this effect.

Hath not our Bountiful Creator made this World, with all this great Variety of Creatures in it, on purpose for the Entertainment of your External Senses with the Satisfaction of Enjoying their beloved Objects, as well as the Internal Faculties of the Rational Soul with the Entertainments of Wisdom and Philosophy? If you Taste not, then this Lovely Fruit, you evacuate God's Design in Creating of it. Again, If God did not design that you should Eat of this Fruit, He would not have made it so Beautiful and Desirable; it's Inconsistent with the Natural Goodness of your Creator, to lead you into the Fire and oblige you not to Burn, to Inflame your Affection with strong Desire, and not to gratify it.

Further, You cannot but observe that God has made all Poisonous and hurtful Creatures of a less comely, if not of a frightful Aspect, and you have a strong Antipathy against them, for this Charming Complexion compels you to taste of it. To which the Considerative or Rational Faculty reply'd,

Our Bountiful Creator has given us liberty to eat of all the Trees in the Garden, but this is forbidden upon pain of Death.

This

This is a grand mistake of the Divine Intention, *saith* Concupiscence, which was by your Eating of this Fruit to improve your Knowledge; and therefore he gave it the Name of the Tree of Knowledge. For as you have discover'd the Natural differences amongst the Sensitive Animals, and have given Names to them, your Creator certainly expects that you should understand the Natures and differences amongst Fruits and Vegetables; otherwise you will never be compleatly Skill'd in your Natural Philosophy.

This proud thought of being Wise, and a Natural Philosopher, so tickl'd *Adam*, or Reason, that he condescended that his Bride *Eve*, or Concupiscence, shou'd take a Taste to Cure her longing.

And the finding it a Fruit as well grateful to the Taste as pleasant to the Eye, perswades *Adam* to a further condescension, until a second Consideration made him feel the miserable Effects of it, as well in his Conscience as in the Constitution of his Body; which his Reason being asham'd of, he fled from the Presence of God, who usually, as it's believ'd by some learn'd Authors,

came down in the Evening to Discourse  
with the young Philosopher, who  
siding himself Naked, or at a loss for  
Arguments to defend his Guilt, and  
Shame, endeavour'd to cover it with  
the thin Figg-leaves of Excuse.

Of the Natural Differences amongst  
the Sensitive Animals, and have given  
Names to them, your Creator certainly  
expects that you should understand  
the Natures and Differences amongst  
Fruit and Vegetables; otherwise you  
will never be completely Skill'd in your  
Natural Philosophy.

This proud thought of being Wise,  
and a Natural Philosopher, is ridicul'd  
down, or Reason, that he considered  
that his Pride was his Concupiscence.  
And take a Taste of God's Judgment.

And the God that is a Fruit as well  
grateful to the Taste as pleasant to the  
Eye, bestows a second Conscience  
upon him, and the miserable E-  
rection made him feel the Conscience as  
well as the Taste, as well in the Conscience as  
in the Concupiscence of his Body; which  
his Reason being ashamed of, he fled  
from the Presence of God, who usually  
is believ'd by some learn'd Authors,  
came

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A  
DISCOURSE

Concerning the  
CONFLAGRATION  
OF THIS  
Material World;

THE  
Local Hell:

ITS  
OUTMOST BOUNDARIES,  
OR

*Abrahams Gulph.*

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A  
DISCOURSE

Concerning the

CONFUGRATION

OF THIS

Material World;

THE

Local Hell;

ITS

OUTMOST BOUNDARIES;

OR

Abraham's Gulph.

---

And having also shewn how Water  
by uniting her forces in the Time of  
Vapour, chang'd this Terrestrial

Globe for some time into a Warlike  
Planet, by effecting an universal De-  
luge which covered the Tops of the  
A  
DISCOURSE

Concerning the  
Concussions, and Earthquakes, to  
which the World is continually sub-  
ject.

CONFLAGRATION  
Extraordinary and most Violent Erip-  
tions of Fire and Sulphur, to break  
the Structure and Temperament of the

Material World.  
Piercy Planet;

Now as a great many Learned Men

Having in the former part of  
the History of Matter, given  
an Account of such Pre-  
ternatural Accidents as have

disturbed, and sometimes in all Ages  
interrupted the Regular Course of Na-  
ture; And having demonstrated that

these Preternatural disturbances, were  
occasion'd by that Natural Strife, that

happens between the contrary Qualis-  
ties of Heat and Cold, Fire and Wal-  
ter;

And

And

And having also shewn how Water, by uniting her forces in the Time of Noah, chang'd this Terraqueous Globe for some time into a Watery Planet, by effecting an universal Deluge which covered the Tops of the highest Mountains Fifteen Cubits.

And how the Central Fire has frequently threatned, not only by Universal Concussions, and Earthquakes, to unhinge its Foundations, but also by Extraordinary and most Violent Eruptions of Fire and Vulcano's to break the Structure and Temperament of it, and turn it into a Globe of Fire, or Fiery Planet ;

Now as a great many Learned Men in all Ages, have been inquisitive into the Natural Causes of this Universal Deluge, and the Difficulty they met with, being to find Water sufficient to effect it, without a Miracle ;

So a great many Learned undertakers, have been no less industrious to find Fire sufficient to dry up the Seas and Rivers, and then to Effect an Universal Conflagration of this Material World ;

These two Difficulties [in my Opinion] might have been easily removed,

mov'd, if they had understood better the Structure of the Earth, and the Nature and Quality of that Matter which makes up the Constituent parts of it.

It will be necessary therefore, in order to our Establishing a Well-grounded Hypothesis concerning the Universal Conflagration in a Natural way, to Resume what we have formerly Observed concerning Matter in General; which we have divided into Three Classes [*viz.*] Volatile, Fixt, and Fluid; and to shew that these Three different Class's of Matter, bear equal Proportions one to an other, and in the Structure of the Earth occupy the same proportion of Place.

The Volatile Class [which we call the Central Fire consisting of Aethereal, Nitrous, Sulphurous, and Bituminous Particles] bears proportion to one Third part of the Diameter; And this Class makes the Earths Equilibrium; and by running a perpetual Round within the Circle of its own Infernal Vaulc, Carries about with it this Crust or Shell of Fixt and Fluid Matter whereupon we live, once in every Twentysour hours, and this we call the Diurnal Motion of the Earth.

The

The first and fluid Matter being intermixt, like the Flesh, Blood, and Bones, or Heterogeneous parts of a Compound Body, bears proportion to the other Two parts of the Diameter.

The first Class of Matter Consists of Parts, Combustible, Calcinable, Liquefiable, and Inflammable.

The fluid Class consists of Water; which is either Subterranean, or Superterranean.

The Subterranean Water, either circulates through the larger Veins of the Earth, or pervades the Strait Pores of the Densest Matter.

That which Circulates through the Larger Veins, does not only feed and nourish the Central Flame, but also hampers it, and keeps it within the Limits and Boundaries of its own Imperial Kingdom.

That which pervades the Strait Pores of Dense Matter, does as well feed and nourish the Pneumatical and Native Spirits of that Matter, as shackles them, by keeping of them within their little Cells, which otherwise would break out, and let on fire the more Combustible part of it.

The

**THE**

**THE**

fatus, the Exterior Parts of the Body  
 become Dry, Withered, and more  
 Combustible; and at the last the  
 whole Body is thrown into a Feverish  
 Burning, which continues until the  
 Vital Flame be Extinguish'd, and the  
 Native Spirits fly out: So in this great  
 Body of the Earth, the Central Fire,  
 which is the Vital Flame of it, by  
 continual feeding upon the Fluid Mat-  
 ter, does gradually waste and consume  
 it down. And this is not only observable in  
 our Sinking of Pits, where we gene-  
 rally meet with the upper Strata of  
 Beds of Stone and Coal drained from  
 their Waterish Feeders, their Native  
 Spirits Exhal'd; but also several An-  
 cient Springs sunk down in their  
 Veins; large Rivers detach'd in  
 their Water Courses; and the Seas in  
 several Countries to have lost Ground,  
 as in Egypt and Holland, which un-  
 doubtedly [in former Ages] have been  
 in the possession of the Main Ocean.  
 From these general Desiccations of  
 the Fluid part of the Globe we con-  
 clude that [according to the Natural  
 Course of things in this World] the  
 Volatile Matter, as the Central Fire,

will

will the process of rise so far gain  
 ground upon the fluid part of it, as  
 to break out upon the Combustible  
 and Inflammable part, and by set-  
 ting them first on fire, the whole Globe  
 will be turn'd into a fiery Planet;  
 from whose scorching and fiery At-  
 mosphere, the fluid Matter shall be  
 forc'd to fly and rage about in thick  
 fogs and Waterish Mists, until they  
 fix and settle into a Waterish Vortex,  
 dividing the Celestial Regions from  
 the Smoaky and Flaming Atmosphere  
 of this Burling Globe, and its most  
 probable char by that vast Gulph which  
 Father *Abraham* told *Dion* was placed  
 between Heaven and Hell, is only  
 meant these fogs and Waterish  
 Mists, which shall divide the outmost  
 Boundaries of them; through which  
 the Damned Souls may probably see them,  
 and have some Interlocution with those  
 in the Celestial Regions; tho' all this  
 shall only inflame and aggravate their  
 Torments, when they shall see *Abra-  
 ham*, *Isaac* and *Jacob* in the Kingdom  
 of Heaven, and themselves shut out,  
 by this unpassable Gulph. *enough*  
 Having already made it apparent,  
 that when the confus'd Chaos of Mat-  
 ter

presented in the Form of this Habitable  
 Globe, in the West side part of it by a  
 Natural tendency of Motion, settled in  
 the Central part, as is demonstrated by  
 the Addition that the Central Vault, wherein  
 this Polar and fiery Matter is con-  
 tained, is in Proportion to a Third part  
 of the whole, seems to be most proba-  
 ble, as well from Scripture as Natural  
 Reason, and as is demonstrated by the  
 For the Scriptures represents Hell as  
 a Lake of Fire, (Mat. 9) 49; Rev. 20.  
 and the Angel in the Lake of Fire of the  
 old Hell is commonly called *Inferus*,  
 which signifies a place *Infra* or below,  
 below the Cover or Outer coat of the  
 Earth, Matter wherefrom we live, and  
 is called *Tartarus*, which signifies the  
 Pit of Hell, or that Infernal Dungeon  
 filled with Fire and Brimstone, that  
 burns and scorches, and casts no  
 Light, and that this Infernal Lake of Fire  
 was in the Central part of the Earth,  
 was not only the Opinion of the Roman  
 Church, which has undertaken to give  
 the Dimensions of it, but agrees with  
 the Opinions of most of the ancient  
 Fathers and Doctors of Christianity.  
 It is to be observed that when the

It is also agreeable with the Opinions of our own Doctors, who assert, that at the Day of Judgment, when the Sentence against the Wicked shall be pronounced in these Words, *Depart from me ye Cursed into everlasting Fire*, the Central Fire shall break out, and cause an Universal Conflagration of this Material World ; for then the Central Hell shall be enlarged, and the Aerial Regions which are now the Devils Territories shall be fill'd with Smoak and Fire, and the Damned confin'd to that everlasting Smother, where the Worm shall never die, and the Fire shall never be quenched ; by which words its more than probable that this Terraqueous Globe shall be changed into a Fiery Planet, that the Aerial Heavens shall become a Flaming Atmosphere, and that this shall be the Eternal State of this World.

He that would desire further Satisfaction in this particular, may consult Dr. *Hackwel* and Mr. *Ray's* Discourses concerning the Conflagration of this World ; my intention being only to shew, that it is most probable that there is a Central Vault of large Dimensions, filled with Volatile Matter, con-

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sisting

fitting of Nitre, Bitumen, and Sulphur;  
and that it is as probable that this  
may break out, and set the Earth on  
Fire, as its possible for a Man to Die of  
a Burning Fever.

CHAP.

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A Short  
**TREATISE**  
O F  
**Meteorology;**

With some  
Observations concerning the  
Changes and Alterations of  
the Weather.

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A Short  
TREATISE

of  
Meteorology

With some  
Observations concerning the  
Changes and Alterations of  
the Weather

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2

A Short  
TREATISE  
OF  
Meteorology,

## C H A P. I.

*Of Vapours, and Exhalations, &c.*

**V**apours and Exhalations are the Perspirations of this Ter-  
raqueous Globe, and are caus'd  
as well by the Internal Heat  
and Fermentation of it, as the Exter-  
nal Influence of the Sun, which by  
opening of its Pores, sucketh them out,  
and raiseth them up into the Regions of  
the Air.

These Vapours and Exhalations are  
the Material Cause of the several Kinds

of Meteors that are generated within the Compass of the Atmosphere; which extends as high as the fiery *Globuli* of the Sun make their Rebound from the solid Surface of the Earth, and Fluid Superficies of the Waters, and no higher.

The higher the Sun ascends in the Meridian, it strikes down these fiery *Globuli* with greater force upon the Earth and Waters, and consequently they rise higher, and elevate the Vapours with them. So that the Atmosphere is higher or lower in several parts of the Earth, as the Sun riseth higher or lower in the Meridian, and its Beams are darted down in a more direct or oblique Line.

And as the lowness of our Northern Atmosphere, causeth the Sterility and Barrenness of the Northern Mountains; so the height of the Southern Atmosphere, causeth those Mountains in the Equinoctial and Southern Regions to be more Fertile and Productive.

## C H A P. II

*Of the Efficient Causes of all Meteors ; and first of Heat.*

**B**Y Heat is not to be understood the Element of Fire, which Aristotle and his Followers conceived to be under the Concave of the Moon, [there being no such Element there] but by Heat is meant that Internal Heat and Fermentation which is in the Body of the Earth, and that Natural Fire which is originally and essentially in the Body of the Sun, the Vehicle of External Heat, which Streams out from every part of that Fiery Globe, giving Heat, Light, and enlivening Vegetations to the whole Material World, being within the Compass of its Fiery and Luminous Atmosphere.

These Streams of Heat and Light [which is only the shadow of Heat] being Darted through the Regions of the Air in Strait Lines, and single Rayes, are not perceivably Hot or Cold, no more than the Light of a Candle without the Sphere of its Heat ; but being

doubled by multiplyed Reflections, and Reboundings from the solid Surface of the Earth, does increase its Heat, as the Reflections are multiplyed and rebounded; which makes it hotter against a Wall, than upon the plane Ground, and in the Vallies, than upon the Mountains.

We must therefore distinguish between those single Rayes of Heat, which dart through the Air in instants, which are neither perceivably hot nor cold, and the Heat upon the Superficies of the Earth, which being contracted by an Artificial Glass, is Real Fire.

The Essential Qualities of Heat are Calefaction, Elevation, Rarefaction, Liquefaction, and Consolidation, as it meets with Matter Predisposed to receive its Effects.

CHAP.

## C H A P. III.

*Of Cold, the other efficient Cause of  
Meteors.*

**B**Y Cold is not meant a bare privation of Heat, as former Philosophers did conceit; but, a real Body, of a Subtile, Sublimated and Homogeneous Nature, and of a cold and frigid Quality. Its proper place of Existence is between this Earths Atmosphere, and the Atmosphere of the Moon, which is our next Neighbouring Globe; and by the rising and falling of this main Body of Cold, are caused the several Changes and Alterations of the Weather with us.

The Cause of its Rising and Falling, is the pressures of these two Atmospheres between which it is plac'd: When the watrish Atmosphere of the Moon presseth it down, it causeth Storms and Tempests here upon this Globe; And when it Rises, it causes the same in the Moon.

The Rising and Falling of this Main Body of Cold, is sometimes also occasion'd

sion'd by its Dilating and Contracting of it self.

Now as the Suns Beams are hotter in their Reflections upon the Earth, than in the Sun it self, so these Cold Rays which are darted from this Main Body of Cold, being increas'd and multiply'd by Reflection from the Mountains and Rivers, are much colder than the Main Body of Cold in its own Sphere. These Reflected *Globuli* of Cold may be term'd the Lower or Ground-cold, because in Summer it penetrates the Earth, and in Winter it seldom rises higher than the Tops of the highest Mountains, unless when it joins with the Main Body, and then it causeth great Storms of Frost and Snow, &c.

This Lower or Ground-cold, is commonly the Rear-guard and Van-guard of the Sun, always going before and following it; and its most perceivable in the Evening and Morning Twilights, especially, by Birds and Aerial Animals, whose Bodies do so sympathize with the Air, that they can more quickly perceive the Change of Weather (especially the rising of a Storm of Rain or Snow) than any of the Terrene Animals; and this they commonly discover

by

by their Flying high or low, or Flocking together; or sometimes by different Notes or Voices. This occasion'd the Ancient Augurs to conceit them Prophets, &c.

The Essential Qualities and Effects of Cold in general, are Frigefaction, Congelation, and sometimes Petrefaction; and when the lower Cold is contracted, either by Art, or by the Nature, it Starves and Freezes, as the Fire Burns and Scorthern.

This lower Cold contracts and dilates it self, as it meets with Opposition from the contrary Quality of Heat and Fire.

The Effects of the lower Cold when it enters the Earth

By Anaperistasis in Fires Damps in Collieries, Mines, burning Mountains, and Vulcano's.

When it lyes upon the Earth, it causeth Dews and hoar Frosts, it sucks out Damps and corrupted Air out of Under-ground Works, &c.

## CHAP. IV.

*Of the Air, or Medium wherein all  
Meteors are Generated.*

**T**HE Air is a Vast Medium by  
Expansion, fill'd with Rarify'd  
Vapours and Exhalations; which like  
Water would Stagnate, unless by a Daily  
addition of Rarify'd Vapours or Wind,  
it were put into a Flux and Reflux, as  
the Sea is by the addition of Rivers con-  
tinually flowing into it from all sides.

When the Air is Calm, then are the  
Meteors Generated; when by the Wind  
the Air is put into a violent Flux and  
Reflux, they are Broken and Dis-  
appear.

## CHAP. V.

## Of Fiery Meteors, &amp;c.

**T**HE Lower Cold which follows the Sun in the Evening Twilight, continues its Operation for some Hours after its Beams are out of sight, and no longer; [the middle of the Night being for the most part a Calm as well in Winter as Summer] during which time of its Operation, it causeth all those Fiery Meteors which the former Philosophers gave several Names to, as falling Stars, Rods, Beams, *Ignes Fatui* or *Will with Wisp*, &c. according as they differ'd in Matter, Magnitude, and manner of Appearance; some Consisting of a hot and dry Exhalation, others of an Exhalation mix'd with a Viscous and Unctious Matter, a Third of a simple and unmix'd Exhalation: All these are Generated in the Lower Region of the Air, the Matter of them being drawn up out of the Earth, Waters, and Bituminous Boggs and Mosses, by the Sun's Influence upon them, especially in the Spring Months. For then the Subterra-

Subterranean Heat draws out to communicate with its Main Body; for at this time all Animals renew their Hair, clear their Blood from gross Humours, To doth this great Animal the Earth purge her self of gross Humours, by Mushrooms, and other Pinguid Evaporations; for then the Subterranean Heat drawing out to communicate with the External Heat, brings forth from the Earth these Mineral Spirits and Pinguid Perspirations, in so plentiful a measure, which being taken up into the Air are Condensed into Clouds, and fall down again upon the Earth in such Fertilizing Showers, that the Psalmist tells us the Clouds at this Season drop down Fatness. These Hot and Fiery Exhalations which are flying about, scatter'd and dispers'd in the Lower Region of the Air, being seiz'd on by the Evening Cold, are forc'd in Defence of themselves to unite their Forces, and being united do Fire upon their Grand Enemy (*viz.*) Cold.

Some Fire in a Round Figure like a Fireball, which the Meteorologists call a Falling Star; some in a long Train, either Strait or Crooked, and these they call'd by the name of Rods or Beams; others

others being simple and unmix'd Exhalations, flash out in Lightning, like Gun-powder upon a Table; others being mix'd with a Viscous and Unctious kind of Matter Fire near the Earth, are mov'd by the Motion of the Air, or an easie and soft Wind, or are drawn down in pursuit of their Enemy Cold, to Waters, Mosses, Boggs, and Heaths, still Burning like a Candle in a Lantern, till their Unctious Matter be Exhaust'd, and then they leave a Liquid Jelly upon the Earth.

This Meteor they call *Will o' the Wisp*, or *Ignis Fatuus*, or Fool's Fire, because Ignorant People conceiving it to be a Spirit, keep their Eyes upon it, until they lose their way, and then are apt to give a dreadful Account of a Spirit they met with, which misled them.

If any of these Fiery Exhalations escape the Evening Cold, the Morning Cold about break of Day, before it be drawn down to the Waters, Fires them, by causing them to pursue the same Method of Self-defence they took in the Evening.

## C H A P. VI

## Of Comets, &amp;c.

**A**mongst the Fiery Meteors, all the former Philosophers reckon'd Comets to be the most Remarkable: And they gave such Dismal Account of the Dreadful Effects of them, that their very Appearance put the World under a great Consternation. But in my Opinion, the World [according to the Old Proverb] was more afraid than hurt by them.

For that Comets are Fiery Meteors, and have such dreadful Effects following their Appearance, is a Mistake in Meteorology so palpable, that it needs no Confutation :

That which we call a Comet, being no more than a Star of a Fiery and Luminous Body, in Conjunction with an other Star of an Opaque and Watrish Substance, or a Vast Celestial Cloud, which by receiving into its Body the Bright Rays of the Luminous Star, becomes Translucent, and appears to us in the Form and Figure of a Luminous

or

or Fiery Globe; and by emitting Beams or Streams of Light, it appears to be a Fiery and Burning Meteor, which by the Meteorologists is call'd a Comet.

If this Conjunction and Interposition be Centrical, it sends forth its Beams of Light on every Side, and this we call a Bearded Comet.

If the Interposition be not Centrical, but the Luminous Star be higher or lower, or on one side, it sends forth a Beam or Stream of Light upward or downward, or to one side, and this Beam or Stream of Light, is call'd the Tail of the Comet.

The Appearance of this Comet continues until their different Motions have separated them.

A demonstration of this you may have several Evenings, when a black waterish Cloud interposeth between us and the Body of the Sun; if the Interposition be Centrical, the Sun's Beams stream out every way; if the Sun be higher, it sends forth its Beams of Light downward; if lower, upward, or to one side, according to the Interposition of the Cloud.

Against this Hypothesis, it may be Objected, that there is no such thing in

Nature as an Opaque Waterish Cœlesti-  
al Body.

To which I answer, That the Moon is an Opaque Globe of a Waterish Substance; and if its Natural Course and Motion was not within the compass of the Suns Atmosphere, it would be to us invisible: So there may be [for any thing that we know] Thousands of Opaque Globes, within the Vast Expansion of the Cœlestial Spheres, which are never visible to us, but when they fall into Conjunction, or Opposition, with a Luminous Star: And when these Opaque Globes are of a Round and Waterish Substance, they appear to us in the Form of Comets.

Again, it is most probable that all these New Stars, which have appear'd for some time, and then disappear'd, [which Astronomers have given such Remarkable Accounts of,] are only Opaque Globes, made visible for some time, by their being in Conjunction or Opposition to a Luminous Star, and when their different Motions have separated them the Opaque Star hath disappear'd.

## C H A P. VII.

*Of Thunder, its Causes and Effects.*

**O**F all Fiery Meteors, there are none so dreadful as Thunder, which being an Aerial Fire-Damp, the Nature and Motion of it will be best illustrated by comparing it to an Aerial Battle between these Two powerful and irreconcilable Enemies, Fire and Water.

The Army of Fire consists of Hot and Fiery Exhalations, raised out of the Earth and Bituminous Bogs by the Influence and Heat of the Sun; especially out of the *South-east*, *full East*, and *North-east* Parts of this Globe: Those vast and spacious Continents affording most of those hot and fiery Soldiers.

The General that Commands in Chief, and which leads them forth into the Field, is a Sulphurous and East Wind.

The Army of Water consists of cold and moist Vapours, raised out of the *Southern* and *Western* Ocean.

Their General that leads them forth  
 to Battle, is a cold moist *West Wind*.  
 For its to be observ'd, that for some  
 time before the Thunder begins, and  
 whilst it continues, the Blasts of Wind  
 always blow from contrary Points,  
 and the Clouds gather and march up  
~~round~~ <sup>round</sup> the full Face of the Wind, which  
 always Blows from an *East Quarter*.  
 These Two Armies being Form'd in  
 two Wings and two Main Bodies;  
 -*East Fire*, being the more Active and  
 Volatile, sends forth a Detachment of  
 fiery Chariots, from the *South-east*  
 Wing; which being met with by an  
 other Detachment of Vaporious Clouds  
 from the *South-west* Wing, the Battle  
 begins. And those hot and fiery Ex-  
 halations that we see riding in Chariots  
 of Fiery Clouds, like Pillars of Tru-  
 ceene Smoke, being inclos'd and sur-  
 rounded with this Vaporous Cloud,  
 are forc'd to unite all their Forces to-  
 gether, that, *Vix Unita* being *Fortior*,  
 they may the better be able to defend  
 themselves, and destroy the Enemy.  
 No sooner then the Forces on both  
 Sides are united, but the Fiery Exha-  
 lations discharge upon the Waterish  
 Cloud, in Fire and Lightning.

The Thundring Noise we hear is occasion'd by the Opposition they meet with, and the Breach of the Cloud; which falls down in great and dreadful Showers of Rain upon the Earth; the Drops of Water being greater or less as the Breach of the Cloud is at a higher or lower distance from the Earth.

After the Thundering Battel is thus begun, the other Wings engage, and we hear the Thundering Sound of the Battel both *South-east* and *North-west*. The Battel by this time growing very hot, the Main Bodies engage; and then nothing is to be heard but a Thundering Noise, with continual Flashes of Lightning, and dreadful Showers of Rain, falling down from the broken Clouds.

And sometimes random Shots flie about, kill both Men and Beasts, fire and throw down Houses, split great Trees and Rocks, and tear the very Earth.

For it is no more impossible for the more Earthy Part of an Exhalation to be on a sudden Petrefied into Stone [which we call the Thunder-bolt] in the Body of a Cloud; than that Laxe Matter should be Petrefied into a Stone

in the Body of the Earth; the Antipe-  
 ristical Cause being the same in both.  
 These two Irreconcilable Enemies  
 will keep the Field, until one of them  
 be utterly destroy'd. If the fiery Exhalations keep the  
 Field, the East Wind blows still hot  
 and sulphureous. If the Vapours get the Victory, the  
 West Wind blows cold and moist, the  
 Sky is clear, the Air is cold, the Bat-  
 tle is over, and the Earth Buries the  
 Dead and gets the Spoil. If any should  
 think this Account of Thunder to be a  
 rather Figment and Romance, than true  
 Natural Philosophy, I advise him  
 [when ever he sees the Thunder Packs  
 rising White and Translucent in a South-  
 east Point, when he feels the Air hot  
 and Sulphurous, with some contrary  
 Blasts of Wind coming whistling from  
 the West] that he make haste on to the  
 Top of *Crossfeld*, or some other high  
 Mountain, that gives a Prospect to both  
*East* and *West*, and he may be inform'd  
 both as to the truth and manner of this  
 Aerial Battle.

## CHAP. VIII.

Of Vaporous Meteors; and first of  
Dews, and Hoar Frosts.

**D**EWS are Vapours Condens'd upon the Surface of the Earth, by the Evening and Morning Cold, these being the times of the Dews falling as I have observ'd that sometimes about Mid-afternoon, the under-ground Cold being impatient of a long Summers Days Confinement; hath broke but, and condens'd the Vapours into a Dew, which by the first Reflection of the Sun was taken up into the Air, and a viscus Matter left upon the Grass, like Cobwebs or fine Threads, which we call *Fata Batae Mariae*; and these Vapours being condens'd into a Cloud, will fall down again in a Shower of Rain about Sun-setting.

But the usual time when the Evening Dews fall, is immediately after the Sun is Set; for then the lower Cold lyeth upon the Ground, and as the Sun goes down it riseth.

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But the usual time when the Evening Dews fall, is immediately after the Sun is Set; for then the lower Cold lyeth upon the Ground, and as the Sun goes down it riseth.

The Morning Dews begin to fall about break of Day: For about that time the Waters being colder than the Mountains, draw down the Lower Cold from the Mountains to them.

And it bringing the Vapours along with it, sits Regent upon the Waters, in thick Fogs and waterish Mists, until the Influence of the Sun, by warming of the Waters, either scattereth and disperseth the Vapours, or forceth them to rise up to the Mountains, or the cool Regions of the Air, leaving only Dews upon the Ground behind them.

These Dews, when the Cold is contracted and freezing, become Hoar Frosts; for a dilated Cold causeth Dews, and a contracted Cold Frosts.

In the Spring Months, when the Subterranean Heat draws out from its Winter Quarters to join with the external Heat of the Atmosphere, it brings out of the Earth with it some of the finer Mineral Spirits; and the Sun-beams being then Powerful and Attractive, do suck up these Mineral Spirits, with the sweet Effluvia and Perspirations of Herbs and Flowers, which the Evening and Morning Cold condenseth into Honeydews, or Manna. In these Months,

the

the Sun's Beams are so strong and vigorous, that they will draw up Frog-spawn; which being receiv'd into the Body of a warm Cloud, will presently be Form'd into little Frogs, which will fall down upon the Earth in these Fertilizing Spring Showers. Sometimes they will suck up Blood, which will fall down in Showers of Rain, especially after Bloody Battels fought at great distances: So Corn, &c. will fall down in Rain. But these are *Diurnal Natures*.

Cloud.

Of Rain.

Rain is either general or particular, higher or lower.

Observations concerning Rain.

When the Evening Dew falls before the Sun rises, and the Sun draws it up again, the Evening Cold condenses it into a Cloud and it falls down in a shower of Rain in the Evening. Twilights.

When

the Sun's Beams are to grow and vi-  
 -gous; these will be up Pro-  
 -gious; which being receiv'd into the  
 -gious; which being receiv'd into the  
 -gious; which being receiv'd into the

### *Of Rain, Hail, and Snow.*

**R**ain, Hail, and Snow, are the same  
 as to their Matter. The difference  
 among them is only Accidental; Hail  
 being only Drops of Rain, frozen in  
 their falling down from a broken  
 Cloud, by a contract'd Body of the  
 Lower Cold; Snow being Vapours fro-  
 zen before they be Condens'd into a  
 Cloud.

### *Of Rain.*

Rain is either general or particular,  
 higher or lower.

### *Observations concerning Rain.*

- I. When the Evening Dew falls be-  
 fore the Sun-set, and the Sun draws it up  
 again, the Evening Cold condenseth  
 it into a Cloud, and it falls down in  
 a Shower of Rain in the Evening  
 Twilight.

When

When the Evening Cold condenseth not the Vapours into Dews, but draws them up to the Tops of the Mountains, and thence into the Cold Regions of the Air, they fall down in Rain about break of Day.

2.

When the Morning Cold condenseth not the Dews, but draws up the Vapours to the Tops of the Mountains, and thence into the Cold Regions of the Air, they fall down in Rain about Ten a Clock or sooner, and so continues a general Rain for some Hours together, the Evening and Morning Vapours being join'd.

3.

When the Air is Calm, and the Waters colder than the Mountains, the Vapours draw down to the Waters, and there they lie in a thick Fog or Mist, until the Sun by warming of the Waters, causeth them to rise about Nine or Ten a Clock, if the Morning Cold dilate it self, it raiseth the Vapours to the middle of the Mountains, where they continue in a thick Fog, the Mountain Tops being clear, until the Vapours be all spent in a mizzling kind of Rain.

4.

When the Morning Cold divides it self into many little contracted Bodies, these

5.

these lesser Bodies of contracted Cold condense the Vapours, and they fall down in particular Showers, some not Mountain height; so that one may sometimes go through a Shower of Rain [if he please] which will fall upon the Skirts of the Mountains, when at the same time 'tis clear both above and below the Shower. Thus a Man may be above the Clouds and the Rain.

6. When the Morning Cold draws the Mists and the Fogs from the Waters, *gullies* [or in Sops, as we call it] to the Tops of the Mountains, and they Trall there too and fro, sometimes rising, and then falling again, the Dispute being between the Water-cold and the Mountain-cold, whether should get the Prize,

If at the last these Tralling Mists of Vapours be lifted up into the Cold Regions of the Air, and be there Condens'd by some of those lesser Bodies of Cold which are flying about, they fall down in particular Showers within an Hour or less after they be taken up; so quick is the return of Vapours into Showers of Rain.

## Of Hail and Snow.

## OBSERVATIONS.

**W**HEN these lesser Bodies of contracted Cold, are so placed one above another, having distances of warm Air betwixt them, [as often times it happens in very hot Weather, for the greater the Heat is, the more narrowly do these lesser Bodies of Cold contract themselves] if any of the higher Bodies of Cold condense the Vapours into a Cloud, and it break, and fall down in drops of Rain through a Body of more contracted Cold, it freezeth these drops of Rain into Hail-Stones.

I have observ'd a Shower of Rain upon the Mountains, the same a Shower of Hail upon the Skirts of the Mountains, the same dissolved again into a Shower of Rain in the Vallies. I have observ'd also a Shower of Hail at one end of the Town, the same a Shower of Rain at the other end;

the

the contracted Body of Cold that caused the Hail, being not a Quarter of a Mile in Circumference.

### Of Snow.

When the Lower Cold riseth, and the Upper Cold fallerh, and so struts the Sphere of Rarefaction that the Wind blows thin, as out of a contracted Mouth, the Vapours are frozen in Snow before they be condensed into a Cloud, and the shower of Snow only at first covers the Tops of the Mountains; but as soon as the Lower Cold riseth Mountain height, and joins with the Upper Cold, the Snow falls down into the Vallies and covers the Earth.

### OBSERVATIONS.

1. When the Wind has blown for some time S. E. or full S. or S. W. we must expect a great and general Rain; for these Winds blowing from such Regions where the Atmosphere rises high, bring over with them the greatest Quantity of Vapours; which our Mountainous Country

Country condenseth into Clouds; which fall down in great and general Rains.

And this is the reason why those Countries where most of the Vapours rise, have the least of Rain; which want is supplied by great Dews, which the Evening and Morning Cold condenseth upon the Ground.

For where the Atmosphere rises high, the Lower and Higher Cold never meet, which is the cause of their want of Rain.

When the Wind blows N. or N. E. or full E. we have seldom Rain; but great Flights of Snow. For the Atmosphere in these Parts being very low [especially in Winter] and the Mouth of the Sphere of Rarefaction very strait, the Wind that blows from those Quarters is so very thin and freezing, that those few Vapours which are brought from those places for the most part fall down in Snow.

2.

CHAP.

## C H A P. XL

## Of Frost, and Thaw, &amp;c.

**F**rost and Thaw are the Effects of quite different Causes; the one being occasion'd by the Influence of Heat, the other of Cold; and these two contrary Qualities do not give ground one to another without great Struggle and Contest. When the Wind blows from the North, the first beginning of Freezing is in the Waters; and this we call a Hard Frost; its the Effect of Operation of the Morning Cold; which coming down to the Waters in the Evening Twilight, and carrying the Vapours along with it, leaves a Waterfall of Frost upon the Ground behind it. These Vapours lie upon the Waters until Nine a Clock: for by that time the Influence of Heat having warm'd the Waters, forceth them to remove their Quarters, first to the cold Tops of the Mountains, and thence to the cooler Regions of the Air, from whence they fall down in Showers of Rain about Twelve

Twelve o'Clock, this Frost only gains  
 the Winter Valleys, and Plains. <sup>1212 W</sup>  
 The Second Morning, the Gold  
 doubles in Force, and Glazes the White  
 snow, congeals the Fountains, and is fall  
 in the middle of the Mountains. Their  
 Tops still continuing in the possession  
 of Heat. This degree of Cold is over-  
 powered by the Influence of Heat about  
 Two o'Clock, and falls gentle in April  
 in the Evening Twilight. <sup>1212 W</sup>  
 The Third Morning the Gold doubles  
 its force, and gains the Tops of the  
 Mountains. And the Influence of Heat  
 melts the snow, the left Ground  
 in the Morning Twilight is all covered in a  
 shower of Snow, covering only the  
 Tops of the highest Mountains. The  
 Middle, Upper and Lower Gold being  
 now united, the Frost keeps its posses-  
 sion of the Earth, and Wings some-  
 times for a Month, and sometimes  
 and sometimes continuing in a still  
 manner from the Sea, the which Winds  
 carries the Wind all the time blow-  
 ing Goldens Thin, the Mouth of the  
 Sphere of Perfection (being strain-  
 ed by the joyning of the Highest and  
 Lower Cold.

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Doring

## C H A P. XL

## Of Frost, and Thaw, &amp;c.

These are the Effects of  
 quite different Causes; the  
 being occasion'd by the Influence of  
 Heat, the other of Cold; and these two  
 contrary Qualities do not give ground  
 one to another without great Struggle  
 and Contest.  
 The first beginning of Freezing is  
 the Waters, and this we call a Frost;  
 for the Effect of Operation of  
 the Morning Cold; which drawing  
 down to the Waters in the Evening  
 Twilight, and carrying the Vapours  
 long with it, leaves a Waterish Mist  
 Right upon the Ground behind it.  
 These Vapours lie upon the Waters  
 until Nine a Clock; for by that time  
 the Influence of Heat having warm'd  
 the Waters, forceth them to remove  
 their Quarters, first to the cold Tops of  
 the Mountains, and thence to the cooler  
 Regions of the Air, from whence they  
 fall down in Showers of Rain about

Twelve

Twelve a Clock, this Frost only gains  
the Winter Valley, and Plains.

The Second Morning, but Cold  
doubles its Force, and Glaciers the Win-  
ters, engross the Earth, and rise  
to the highest Mountains: Their  
Tops still remaining in the possession  
of Heat. The degree of Cold is over-  
powered by the influence of Heat about  
Two a Clock, and falls down in Rain  
in the Evening Twilight.

The Third Morning, the Cold doubles  
its force, and gains the Tops of the  
Mountains. And the influence of Heat  
commonly remains the last Ground  
a little before the Sun: And in the  
Morning Twilight is affected with a  
shower of snow, covering only the  
Tops of the highest Mountains.

The Upper and Lower Cold being  
now united, the Frost keeps its posses-  
sion of the Earth, and Water some-  
times for a Month, or more together,  
and in some Countries lying at a dis-  
tance from the Sea, the whole Winter  
Quarters the Wind all the time blowing  
ing Cold and Thins, the South of the  
Sphere, of heatification, being strain-  
ed by the joyning of the Higher and  
Lower Cold.

and T

P

Doring

[illegible]

The general frost in the North American countries near the Pole, and in the countries on a distance from the sea, has done Regularly, but in the British and French Islands, and in the West of the approaching Spring, the frost the Frost and Snow is dissolved in a very short time, and the Spring comes on much sooner than in those countries where the Frost is longer continued.

During

g

Thus

Thus as a constant Intercourse of Day  
and Night gives the Active Animals  
liberty, by Rest and Sleep, to recover  
their strength, and to prepare for an  
Annual season of Frost and Snow, re-  
covers and repairs the Strength and  
Spirits of the Earth, and then  
spends in the production of new  
creatures. For as the Earth is  
all things are made by the  
power of the Sun, and the Earth  
by day.

As the Earth is covered with  
dust, and the Sun is the source  
of heat, and the Earth is the source  
of life, the Earth recovers its  
strength, and the Earth begins  
first at the Waters, and from thence  
rises up to the Plains and Valleys;  
and at last to the Tops of the Moun-  
tains, which are for sometime kept  
in the possession of Frost and Cold,  
after the Sun has part of the Earth  
recovered, the Earth is covered  
the Flame, by the power of the  
Suns and Exhalations round about  
will raise the Wind to great a height,  
as will make it a matter of great  
power to quench the Flame.

CHAP.

Thus as a constant Inconcomitant of Day  
 and Night, the Sun and Moon, but  
 recover of sleep and sleep to recover  
 of the Sun and Moon, and so on.  
 Annual return of Day and Night, and  
 so on, and so on, and so on, and so on.  
 And being thus in a manner  
 between them, in such or full, or  
 of the Sun and Moon, and so on,  
 or as they come or go, and so on.  
 This Sphere of Heat, by the  
 of Vapours and Exhalations, and  
 Wind.

That Heat is the cause of Wind, is  
 apparent from the Experience of  
 People, who, to cause Wind, usually  
 set Chaff, Seeds, or Straw on Fire.  
 And when Houses or Towns are ac-  
 cidentally thus set on Fire, the Heat of  
 the Flame, by Rarefying of the Va-  
 pours and Exhalations round about,  
 will raise the Wind to so great a height,  
 as will make it a matter of great dif-  
 ficulty to quench the Flame.



These Wind Helms fix upon the coldest parts of the Globe, as the Gibbosity of the Sea, the Tops of the highest Mountains, Mountain-Heaths, Waters, and Rivers.

The Matter on which these Helms consist, is a Vaporous Mist, which as it endeavours to rise up, is held down by the Gravity of the Atmosphere, and by carrying the Nitrous part of it (which is always upwards) into the Air, the Helms of the Air is put upon a violent Task, every kind of Wind being only a current of Air, the spreading of which is retarded by the Gravity of the Atmosphere.

Wherever the Grand Helm fixeth, from that Quarter the Winds blow, till the flock of Vapours be dispersed. Instance,

If the Grand Helm fix upon the Mountains of Germany, the Second Helm fixeth upon the Gibbosity of the Eastern Seas; [by the Gibbosity of the Sea, I understand that middle Ridge where the Flux and Reflux breaketh;] the Third Helm fixeth upon *Trasget*, and that Ridge of Mountains; the Fourth Helm fixeth upon *Shetley*, and that Ridge of Mountains; and so forward

ward, until the Grand *Palace* be  
 spent, and then the Wind ceases, and  
 the Air in Calm.  
 Then, distance between Helms, and  
 Helms, call an Arch; over which, from  
 the Vapour, rise the Wind blows them  
 from Helms, Helms, and rising and  
 repairing another, until the Grand  
 Sensitive Spirit. And so on, the wind  
 spirit, the Grand Helms, upon the  
 Mountains, in the Wind, blowing  
 West, forming Helms and Arches till  
 that Stock be spent.

The Grand Helms is always Open,  
 containing the Wind. The Air  
 Wind is Wet and Heavy, the Arch o-  
 ver-Clouded, for as the Nitrous part of  
 the Helms, which is easily win-  
 to Wind, is dry, before the Rain,  
 and the Air, being dry, drives  
 before the Helms, on but or list  
 but the Grand Helms is Mind, being  
 part of Exhalation, and part Vapour;  
 the upper part of the Helms being Ex-  
 halation, and the lower part Vapour.  
 The Helms is Translucent, be-  
 ing all Exhalation, the Wind Dry, the  
 Air Clear, as Helms are all Exhale-

The Invisible Helms are all Exhale-



When the Vapours rise and the  
 Tops of the Mountains and high  
 in a Black and Opake Light  
 when a new Light is seen  
 for there is a new  
 Sphere of Radiation is seen

When they are Opake at the bot-  
 tom, and White at the Top, expect a  
 Shortly Rain as an indication

When the Helms are White and Trans-  
 lucent, expect a dry Wind, which will  
 blow from the West

When the Helms are White and  
 within the Arch and Radiation, the  
 Wind will Blow sometimes from both  
 Helms, and sometimes a third Blast  
 of Wind will come from a middle  
 Point or Quarter; and sometimes  
 also a Blast of Wind will come whirl-  
 ing down from above our Heads with  
 great violence.

When the whole Horizon is Helm'd  
 about, expect contrary Blasts, Whirl-  
 winds, or Hurricanes.

When the Helms rise and close up  
 the Arch with black Clouds, expect  
 great Rains.

Where

2. And Where the Clouds begin to gather  
 and Brightest Mountains Height  
 Wind will blow from that Quarter  
 for there a new Helm is fit'd, and the  
 Sphere of Rarefaction is fast a work  
 3. When they are Ope at the point  
 rom, and White at the top, expect a

9. In large Continents at great distance  
from the Sea, where there are not many  
Helm fixeth, and the Wind is gathered  
ed, the Wind will blow from that  
Point where the Helm is fixeth, and  
gathered together, and the Wind will  
blow from both  
Helms, and sometimes a third Blaf  
fe Wind will come from a middle  
Point or Quarter; and sometimes  
also a Blaf of Wind will come whirl-  
ling down from above our Heads with  
great violence.

Winds of Hurricane  
about expect contrary Blast, Whirl-  
When the whole Horizon is Helm'd

CHAP.  
The Arch with black Clouds, except  
Great Rains.

W hen the Sun is low in the West, and the Air is cold, and the Vapours are drawn down, and the next Morning Cold is condensed into Clouds, which the next Day fall down in Showers of Rain about Twelve a Clock.

**Prognostications of Rain, from the Setting of the Sun.**

**W**hen the Sun Sets in a black waterish Cloud, the Vapours are condensed by the Evening Cold, and the Morning Cold might pitch them into the Cold Regions of the Air, where they swim until Nine or Ten a Clock next Morning, and then their own weight causeth them to sink and break into Rain.

When the Sun goes down veiling, or forcing, [as they call it] the Vapours are drawing down with the Evening Cold, and the next Morning Cold is condensed into Clouds, which the next Day fall down in Showers of Rain about Twelve a Clock.

When

3. When the Sun Sets broad and glimmering, it Sets in thin Vapours, and the next Day will fall down in pouring Rain.

*Signs of fair Weather.*

1. When the Sun Sets clear and in a little and fiery, the Vapours are all spent, and you may expect a fair and hot Day to follow.

2. When the Sun Sets in a blue cloud, the Vapours are all spent, and you may expect a fair and hot Day to follow.

3. When after the Sun has Set, the Beams strike the Air with a Crimson red, you may expect that the next Day will be fair and windy.

1. *Signs of Rain from the Rising Sun.*  
Before the Sun appears, its Beams strike the Air with a Crimson red.

Red, expect Wind and Rain about  
Ten a Clock, for the Air is full of  
Vapours and Exhalations.

When the Sun Rises, being  
glimmering, and is presently receiv'd  
into a black Cloud, the Morning Gold  
rises, and takes up with the Va-  
pours, which fall down in great  
Rains.

When the Sun Rises clear, and se-  
veral little black Clouds are ready to  
receive it, expect a Showery Day.

*Signs of a fair Day, from the Ris-  
ing Sun.*

If the Sun Rises little and fiery, and  
the Vapours draw down to the Wa-  
ters, leaving a Dew upon the Ground,  
these Vapours about Ten a Clock are  
Rarify'd into Wind, which continues  
blowing only till Three in the After-  
noon, and Prognosticate a fair Season.

If the Sun Rise in thick Clouds, and  
appear not till until Ten a Clock, ex-  
pect a clear Afternoon.

expect Wind and Rain about  
 1. Clock, expect a clear  
 noon, but a dry season; for the Moon  
 2. When the Sun is in the  
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When the Sun Rises clear, and 15-  
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sign of a fair Day, from the Rife  
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If the Sun Rises in thick Clouds, and  
 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

If the Sun Rises in thick Clouds, and  
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If the Sun Rises in thick Clouds, and  
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*Newton*, at the Three Pigeons  
over against the Inner Temple  
Gate in Fleet-Street.

A Charge given at the General Quarter  
Sessions of the Peace for the County  
of *Surrey*, holden at *Windsor*, on *Tuesday*  
the Fifth day of *April* 1691, and in the  
Fourth Year of Their Majesties Reign. By  
the Honourable *John Hall*, Esq. One of  
Their Majesties Justices of the Peace for  
that County. The Second Edition Cor-  
rected.

A Historical Relation of the Conspira-  
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Written in Italian, by *Augusta* *Maffei*,  
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